

ADVANCED MANAGEMENT

Quarterly Journal

*The Society for the
Advancement of Management*

Progress in Scientific Management

Evolution in Organization During the Past Decade

Union Education of Workers in Management Procedure

An Experiment in Group Dynamics

Effective Controls for Top Management

Supervising People—Closing the Gap between What
We Think and What We Do

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Comment

AMONG those who manage in industry it is generally recognized that we are coming into an era of industrial plenty for all. A high standard of living throughout the world is technically available. Improvements in products are endless. There is always a better way.

Today, following World War II and its tremendous material destruction we seem to have slipped back. We may have the "know-how," but it is hard to talk about plenty for all when there is starvation, lack of clothing and other essential goods in so many places. Even in this country we are disturbed by shortages which persist in spite of our high production potential.

In what ways can the creation of wealth where formerly none existed, be stimulated? And if it is stimulated to the highest possible degree, how shall the gains from this creation of wealth be made available to all people—the public, in the fullest measure? If we can find good answers to these questions, we can move towards the solution of problems of far-reaching importance.

Wealth created where none existed before is always distributed in some manner. It is distributed to those who directly contributed to its creation and to those who, through their demand, called for its creation. If the distribution is continually well-balanced, all concerned prosper. But if the proportional distribution becomes poorly balanced, then first one and before long the others suffer. It is true that the meaning of balance is not static. It has to be viewed in a dynamic way which retains the acceptance of the great public majority.

What groups are the participants whose returns from this wealth creation need to be kept in dynamic balance? They are:

1. Owners
2. Workers
3. Managers (who are, after all, specialized workers)
4. The public as consumers

In addition, the government, established and maintained to serve the public, draws taxes from the total wealth and should return to the public full value in product or service for its tax expenditure. Importantly it may act in this as a stabilizing force.

The above are not in order of importance. Each is important, and it is difficult to say which is the most

important. It is evident that there is some overlapping among these groups.

Balance needs to be preserved in the return that goes to each in relationship to the return that goes to each of the others. Owen D. Young has said, "Capital which over-reaches for profit, labor which over-reaches for wages, or a public which over-reaches for bargains will all destroy each other."

If ownership selfishly takes unto itself too much of the gain, the others suffer, and ultimately ownership suffers. If the workers claim an undue share, either in the form of excessively high wages or because of low output with disproportionate wages, this can adversely affect all, including workers. The same is true if management, because it is at the helm, claims an undue share of the gains. If, through governmental controls or otherwise, the public can force unduly low prices so that too much of the gains are had here, and perhaps had too rapidly, production withers at the source, and again trouble follows. Government withdraws its share in the form of taxes to be used for the good of all, but excessive or unwise taxation can weaken and even destroy the source of taxes.

I like to think of all this in terms of a helicopter in which we are kept aloft by four blades, namely, owners, workers, managers, and the public. From a technical point of view, this analogy is subject to criticism. Perhaps, however, we can use it to advantage in illustrating our point. If we can extend our thoughts to imagine such a helicopter, it is primarily powered by the creation of wealth. If the four blades are maintained in proper balance, we can remain aloft and, in fact, rise under the power of wealth creation. However, if the blades are not kept properly trimmed and balanced, no amount of power, can keep our helicopter aloft. How, then, can we establish means to keep the correct balance between the blades, which are owners, workers, managers, and the public?

In what way does the creation of wealth come about? We have seen it in the development of water, steam, and electrical power. We hope to see it in the application of atomic energy to the creation of power. It has come about in improved farm machinery, in better communication through the telegraph, telephone, teletype, and radio. We have seen it in improved machine tools used to produce other machines.

We have seen it in better manufacturing methods which take the form of more sensible placement of machinery on the manufacturing floor, improved material-handling methods, either between work places or at the work places, and in the form of motion economy of workers. We have seen it in ways discovered to stimulate all the workers, whether in a shop or in management, to give their utmost for the common good. We have seen it in the development of specialists who can contribute their more exact knowledge to the solution of problems. We have seen it, then, in all invention, whether or not formalized by patent because new ideas and inventions are creative and wealth-producing.

Our power plant driving our helicopter has internal frictions in common with all other power plants. These must be continually overcome. As is true of gasoline power or steam power, I think we can say that they may be more readily overcome at reasonably high speeds. A slow engine will stall under load and stop, and so our economic power plant will stall at low speed. Unless the cost and income relationship can be favorably maintained at a volume above that creating loss, it seems clear that the internal friction of this loss will stall the power plant.

In all of this, inventions and improvement make work easier and make less labor necessary for the production of the same amount of goods, thereby creating unemployment, which in turn causes poor balance. This is the basis for old arguments in which there are, of course, elements of truth. Perhaps its effect can be likened to a force of gravity working against the lift of our helicopter blades, a downward force, it is true, but a force which we believe can be overcome. This opposing downward force must be recognized, and means must be found to minimize its effects.

It is important that substantial gains be passed on to the consumers so that through lowered prices, wider and wider markets may be found and in this

way employment sustained. It may be necessary and desirable to shorten hours of work without decreases in real wages. However, this can be done most readily if the real contribution of the workers in output is unimpaired. Higher pay in total dollars for less production can only create imbalance. Higher pay for proportionately more production is a gain which can always be retained by workers.

It would seem that there is a close relationship between the blade termed ownership and taxation. Taxation so high that it will reduce desire to invest in new enterprises can cause poor balance and a great weakening of power.

Also top management must not be so heavily taxed that inertia to personal development and the fullest contribution to management comes about. In recent years there has been considerable evidence that managers in relatively high income brackets have been hesitant to move into fields of greater responsibility, where their unusual abilities might be more fully used for the benefit of all, because the financial gain after taxation has been so greatly reduced that it has not appealed as being worth while in terms of the cost and uncertainties of making changes.

It seems clear that in these interrelated forces there must be a high degree of intelligent unselfishness on the part of all concerned if all are to prosper together. How can this be brought about? We know that today there is a great deal of selfishness in all groups and in many cases an unwillingness to give ground even though an unreasonable share is secured or retained by one group which will ultimately result in harm to each group. Realization of this fact is needed as well as a determination to overcome it. In this we need strong leadership. Do we today have a realization and are we taking the necessary steps to overcome the difficulties which are clear? It does not seem so. But it is necessary to hope for and seek solutions to these important problems.

JOSEPH O. P. HUMMEL

Progress in Scientific Management*

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Consultant in Business Economics and Management

The Paradox of Scientific Management¹

THE progress of Scientific Management in the United States presents somewhat of a paradox. There is scarcely an enterprise of stability and consequence, of whatever size, that has not been touched by its influence at one point or another. The cumulative effect played an outstanding part in recent amazing war production. Yet there are few individual examples of comprehensive, integrated Scientific Management. This paradox is one of the most interesting and significant aspects of Scientific Management's progress, and we shall find it desirable to consider it more fully.

Beginnings of Scientific Management

The origin of Scientific Management can be identified and dated. It is a product of the genius of Frederick W. Taylor, first worked out in the solution of day-to-day problems at the Midvale Steel Company in Philadelphia, the Bethlehem (Pa.) Steel Company and elsewhere during the years 1880-1900. Taylor's subsequent expositions of origin, technique, principles and philosophy are now classics.² The fact that Scientific Management was something new is evidenced by the response throughout the industrial world—whether of curiosity, interest, imitation, enthusiasm, perplexity or controversy—to Taylor's proposals. Successful management was a familiar phenomenon, else there would have been no industry at the time of Taylor's advent; and there had been various efforts to improve details of management, notably in the field of accounting, especially in England.³ But Taylor offered a new approach and constructed an integrated whole of procedures that was as new as the Wright Brothers' first aeroplane, although likewise many of the parts considered separately were known mechanical devices.

The Scientific Management technique, and the principles derived therefrom, had scope, scientific substance and integrity. It brought organized inductive science for the first time to the homely affairs of the shop,⁴ and subjected unit and composite elements

of the management process to measurement, appraisal and control. It gave a factual substance to what Babbage and Ure had sensed in England half a century earlier;⁵ to what contemporaries like Fayol in France⁶ and Ademiaki in Poland⁷ were striving to formulate a priori; to concepts that in Germany came to be included in rationalization; and it provided a foundation and frame for accessory contributions by associates such as Carl G. Barth, Morris L. Cooke, Henry L. Gantt, and Frank B. Gilbreth.⁸

Technique, Principles and Philosophy

It is not essential to our purpose to consider technique in detail, but somewhat more attention must be given to principles and philosophy. The technique consists of two major parts, each much less fruitful without the other: first, discovery through every resource of scientific method of the natural laws—physical and psychological—that govern a particular management situation; and second, construction of a frame of managerial conduct, or methodology, that observes these laws. The essence of the matter is that the technique is not a scheme of managing in a particular situation, but is a mode of approach to discovering and establishing what the scheme of managing should be for the particular situation. The resultant methodology suitable for each situation, although it will employ commonly useful elements, will in its entirety be unique for each situation. I have observed only one enterprise—a multiple-plant enterprise whose plants, although geographically scattered, produced the same line of products—in which, because of years of patient, determined direction by the same owner-manager, conditions at the constituent plants have been brought to such a degree of similarity that the details of Scientific Management in any one of them are essentially the same as in the others.

Interest in these new industrial practices started intensive and widespread discussion in the course of which Taylor was stimulated to interpret them in terms of principles and philosophy. The very heart of it, he said, was the rule of law, which must replace unsupported individual opinion usually reflecting "thumb-rule," guess or ignorance. Observance of the rule of law means a mental revolution on the part both

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of management and of workers. This mental revolution must include recognition that management and labor have more in common than in conflict; that cooperation is the essence of the management-worker relationship; that this cooperation calls for the assumption by management of previously evaded responsibilities definitely related to processes of production; that among these responsibilities is organization of research to discover managerial laws; formulation of the results of research in the form of standards of purpose, facilities, processes, and methods easily understood by management and workers alike; and managerial initiative in facilitating production through planning of and preparation for all operations.

Taylor held that the resultant increased productivity would afford opportunity for higher wages, but he conceived higher wages not as a stimulant to greater effort but as a reward, in a sharing of the greater productivity, for the essential cooperation. From the larger social point of view he recognized that there was lack of apparent relationship between good management and dividends, especially in a pioneering, exploiting economy. But he insisted that, other things being equal, which they tend to be as an industry matures, the quality of the management is the determining factor as to earnings. Progress and social betterment, he declared, must come from the greater productivity that results from economy of human and natural energies; also progress on this basis is essential to the opportunity for moral and spiritual growth on the part of all associated with industry, and to the preservation of democratic institutions.

Rationale of the Paradox

The mental revolution and the related radically new pattern of management and worker habits required by the Scientific Management technique give a clue to understanding of the paradox referred to at the beginning of this paper—why, notwithstanding its profound influence on industry in the United States, there are few individual examples of integrated Scientific Management. These requirements identify Scientific Management as a *social force*; quite a different order of institution from a transferable mechanistic scheme of managing. As is true of any social force, the objective results of impact are determined as much by the conditions at the point of impact as by the nature of the force.

In respect of Scientific Management, the understanding resolution, guiding skill and patience of the management and the quality of relations with labor

are the most important factors in the response; but also of major importance are the purpose and nature of the enterprise; the plant, equipment and other limiting physical conditions; cumulative crystallized habits, which cannot be eradicated by fiat, but must be faded out gradually by the learning of new habits; and the skill characteristics of the working force. For these reasons Scientific Management calls forth great variety of reactions, reflecting the great variety of comprehensions and capacities of those who undertake its development, the great variety of resistances in the crystallized situations on which the impacts are made, and the infinite variety of permutations of these. Too few managers understand that development of any considerable realization on Scientific Management is a matter of several years, and that they should not start on so rigorous a road unless they have the courage and perseverance to see it through. Some Scientific Management developments have been patient, studious, understanding and outstandingly successful; some hasty, uninformed, superficial and therefore unsuccessful; some are the expressions of commercialized quackery; most of them are sincere, but not adequately informed, and leave a residue of mechanistic betterments in spots but not an integrated over-all Scientific Management.

Taylor stressed the necessity for total integration, for the interweaving of every aspect and function into a single hierarchy of defined objectives, harmonious approach and studied detail. Better, he thought, and his experience justified him, to have the entire enterprise scaled to a uniform—even low—standard of effectiveness than to have the constituent parts vary widely in their rated performance and thus inhibit the integrated effort.

This distinction between total integration and capricious utilization of mechanisms is important, howevermuch the use of mechanisms may appear to improve existing methods and productivity. In the first place, the integration itself is a more potent factor than any mechanism or group of mechanisms. In the second place, without perfect examples of the integrating factor clearly in view, the process of appropriation and adaptation of mechanisms tends toward deterioration. This appears to be the trend in the United States.

Quantative Measurement of Progress Not Practicable

Progress in Scientific Management is not susceptible of practicable quantative measurement. Prior to the development of Scientific Management no two man-

agerial situations and no two managements are identical in their characteristics. Similarly after the impact of Scientific Management no two responses and resultant managements are identical. Because of this variability of reactions to impact, progress refuses to be bound by the most fundamental of statistical laws—homogeneity of units of observation. The statistician is confronted by the fact that there are as many classes as there are units, and any manageable statistical reckoning is impossible. Qualitative differences among observation units neutralize quantitative considerations.

Scientific Management as a social invention is a *universal mode of approach to discovering and establishing* the particular management policy and methods most suitable for a particular situation; and although experience has demonstrated that certain validated elements have application in all situations, there can be no forecast of what any particular management is going to be in all its details after the laws of the situation have been discovered.

Responsive Types of Enterprises

The types of enterprise that have been most responsive to the advantages of Scientific Management may be classified as follows:

A few small or medium-size establishments that happen to have owners, usually owner-managers, who, without necessarily being engineer trained, are of the engineering temperament; who instinctively seek orderly arrangement and the conduct of operations on the basis of calculation; who combine with this temperament qualities of leadership that enable them patiently to carry through the building of a new pattern of habits without impairing current operations.

A few small or medium-size establishments whose owner-managers may not have an impelling instinct for orderly arrangement and perfection for its own sake, but have a temperament that seeks long-run stability; who develop for the enterprise orderly arrangement and a pattern of habits that promotes discovery of and adjustment to change in technology, the economy and the market. These owner-managers also must possess qualities of effective leadership that enable them to guide change from old to new habits of management without impairment of current operations.

A substantial number of large enterprises whose processes are such as to involve extremely large investment in specialized fixed capital that constitutes a hostage given to the future and creates strong

motivation for seeking through the best in management a long life for the investment. These large enterprises can spread the cost of management betterment over a huge volume of business and can support it as a continuous specialized activity. However, it should be noted concerning these giant enterprises that from a management point of view they are essentially confederations of quasi-autonomous smaller enterprises, subject to direction at the highest level in respect to strategic matters, but in which the degree of achievement of Scientific Management in operations depends on the understanding, energy, patience and leadership of the various constituent plant management. So large are these constituent plants that unevenness is as marked among departments of a plant as among plants.⁹

Otherwise throughout industry in the United States the response to Scientific Management is extremely spotty and is represented by fragmentary developments usually restricted to mechanisms such as time study in contrast to a comprehensive and integrated body of procedures involving finance, marketing, purchasing and primary production. In other words, this widespread appropriation of mechanisms generally without integrated relationship, represents an influence of Scientific Management but not Scientific Management itself.

It should be noted that neither mechanization, mass production, mass assembly nor mass selling is Scientific Management or necessarily a response to it. These are distinct parallel forces. In any particular situation Scientific Management may demand or may disapprove one or another or all of these; it depends chiefly on the product, the process, the market and the volume, a set of controlling factors analysis of which Scientific Management makes its first step.

Progress as to Phases

Progress in Scientific Management is best indicated by the spread of its development in respect of various major phases of management.

It is well known that Scientific Management was first developed in the production or fabrication area, was restricted to that area for a period of about forty years, and today presents its most complete and perfect examples in that area. This is because production is concerned chiefly with behavior of physical matter that responds to experiment and other research and manifests dependable laws of behavior in terms of which standards may be formulated and effective control procedures established. The development in

management areas where human behavior is the dominating factor is more complicated and more difficult, and largely for that reason more recent.

Two years after the armistice which ended World War I there was in the United States a slump following a sharp rise in prices, sometimes called the "depression of frozen inventories" because inventories were vastly out of proportion to sales and had to be liquidated at a substantial loss. This and other problems of readjustment brought into high light several outstanding deficiencies of management in the United States at that time. Production technique had progressed to a point far out of line with other phases of management; marketing as a phase of management was expedient rather than calculated and controlled; coordination of sales, production and other departments by top administrators likewise was expedient and without planning and control. Recognition of this situation turned attention to the possibility of applying the Scientific Management approach so effective in production to the organization and control of marketing and of general administration. In less than a decade outstanding achievements in both of these new directions were on record.

Marketing in the most advanced managements had developed a technique involving measurement of such factors as consumer demand, competitive supply, the qualities and training most suitable for developing effective sales people, the most effective methods of selling, and the most suitable channels for getting products to consumers. It formulates standards in the nature of quotas expressed in terms of items of product, territories, salesmen and variable monthly or quarterly volumes. It plans and controls selling in terms of these standards, checks progress and brings remedial measures to bear when deviations are observed.¹⁰

In the most advanced managements top administration has developed a technique reflecting Scientific Management influence. This is especially true of large corporations. It aims at maintaining coordination of all the functions of enterprise—marketing, production, purchasing, financing and employment. It pivots on the budget as an embodiment of standards and an instrument of planning and control. Beginning with the marketing forecasts, program and schedules, it reduces these to equivalent schedules for production, purchasing, employment and financing; and then reduces all to terms of expenditures by functions. Expenditure deviations become the basis of action and control: with an eye constantly on the "break-

even point" at various volumes of sales either modification of schedules is made to meet changed market conditions or modifications of activities to conform to established schedules. There is here involved research, standards, planning and checking of progress for effective control.¹¹

Labor Relations and Personnel Management

The development of personnel management and labor relations has been profoundly influenced by Scientific Management, but also it has been as profoundly influenced by parallel social forces. By 1900, ten years before Scientific Management was brought generally to the attention of industry, humanistic thinking was beginning to have an influence on employer-employee relations. Simultaneously the experience of the larger corporations was focusing attention on the fact that mass employment called for organization of personnel management to compensate for the lost personal contacts among employers and employees of simpler industrial enterprises. Mechanization and meticulous care for equipment generated the point of view that labor also is a factor in production that requires maintenance in good condition of health and skill. Here and there the very advanced view appeared that the good will of labor is itself a factor that contributes to effective production.¹² This movement expressed itself chiefly in provision for adequate light, heat, ventilation, rest rooms, corporation schools for development of skills and interest, and an occasional organization of workers' committees for cooperation with management. Accompanying these developments, and one of the most powerful forces, was the pressure of increasingly strong labor organizations. And in the background was the then mild influence of industrial psychology which was beginning to find a place in university teaching.¹³ This was the situation in respect of employer-employee relations prevalent among most advanced managements when in 1911 Scientific Management made its impact on American industry.

The major contribution of Scientific Management to employer-employee relations and to personnel management is that it stimulates research and the development of objective standards throughout all phases of management, and in particular that these standards offer a solid factual basis for effective application of the good-will theory. A collateral contribution is that the solid factual basis keeps leadership, both of management and of labor, in step with economic change. It is not possible to overemphasize the beneficial influence on personal relations in industry

of the elimination of executives' and foremen's direction of work by guess and arbitrary orders, and the substitution therefor of definite standards of routing, timing, quality, quantity, materials, tools, methods and working conditions generally, understood by the worker as well as by the management. It gives management and workers a common factual language and places both in a position to make more rational and demonstrable requests and to work together in a more cooperative atmosphere. It weakens management's position of arbitrariness, but strengthens its opportunity to increase output and reduce costs; it strengthens labor's efforts to win functional status and an increased share of an increased productivity. It has not solved the problem of employer-worker conflicts, but it has lifted it up to the higher level of concern for facts, and in that respect carries the potential of solution much nearer to becoming a fact.

This potential made it possible for Scientific Management to pioneer in advocacy of labor's participation in fact-finding and the development and use of standards; and for a labor leader, Sidney Hillman, to lift an entire industry from a level of chaos to one of relatively high morale. Labor generally has not become an advocate of Scientific Management any more than has management generally. The curious paradox exists of no serious labor friction in plants where bona fide Scientific Management has been understandingly, honestly and patiently developed, yet of indifferent esteem on the part of organized labor's officials. This indifference appears to be strategic: a part of the campaign to win recognition of functional status and functional participation in the development of Scientific Management in order to assure that it is bona fide.¹⁴

Dormant Areas

Several management areas have resisted the progress of Scientific Management in the United States. It is conspicuously absent from public administration. Although students of public administration reflect its influence and some progress has been made in its development in quasi-public agencies such as TVA and in isolated sectors of other public agencies, generally the crystallized mass of bureaucratic institutions and practices appears to be as impenetrable as a bale of cotton. A notable exception is found in the operations sectors of the military establishments, where may be observed some of the best Scientific Management in existence. National planning of a Scientific Management quality is conspicuously ab-

sent, although the recent establishment of a Council of Economic Advisors may represent an infantile step in that direction.

Scientific Management has not made any notable impression on the day to day conduct of farm operations, although its influence is felt indirectly through improved and less costly farm equipment made available by industrial Scientific Management. The Department of Agriculture has brought science to bear on many farm practices, and aided by establishment of the income tax has stimulated better record keeping and accounting. But there are only isolated instances of influence on the overall management of a farm. There is ground for hope that experimental time studies of the more common units of agricultural operations now being conducted under the auspices of several educational centers will eventually have a stimulating effect.

Scientific Management's influence on household management has been very limited and chiefly indirect. There has not been formulated any standard technique of management of the household, but there has been fairly notable progress in functional arrangements of the household plant, especially the kitchen, and in the development of labor-saving equipment. These have come rather from Scientific Management's influence on industrial enterprises producing for the home as their specialized market.

Both the farm and the household are the surviving strongholds of individualism; the household is not a center of production for a market and farming is as much a way of living as a production center. Neither is accountable to a body of investors outside the center of management.

Wholesale and retail merchandising, in contrast to manufacturers' marketing, has hardly been touched by Scientific Management. Wholesale and retail enterprises have made progress along lines of systematization and mechanization of processes; but generally it has not responded to the concepts expressed in the basic principles and technique of Scientific Management. A few exceptions are to be found among large department and chain stores, and in respect principally to top coordination of departments, and controls of purchasing, storage, delivery and related control of stocks.

Enterprises generally classified as commercial, with a few notable exceptions, also have shown little response to the Scientific Management principles and technique. The few outstanding exceptions are in the communications and insurance field. Of transporta-

tion it may be said that the findings of the Eastern Rate Case Hearings in 1910-11 are still largely pertinent. Banking, which employs to an increasing extent mechanical aids to progress, is still in the stage of systematic management as contrasted to Scientific Management.

Generally throughout all areas of management, including industry, there is absence of over-all perspective and of a comprehension of Scientific Management as an integrated whole of procedures involving a balance among research, standardization and control arrangements. Of late the interest has been focused on mechanisms and devices, such as motion and time study, which have their value, but a value that is limited when not part of an integrated management pattern. Specialization in mechanisms and phases has become dominant and perspective has been sacrificed.

This is true of the profession of industrial engineering. Unregulated, free from prescribed education and training and open to all comers, it is on the whole not genuinely a profession. For every consultant of large vision and command of a responsible technique there is a score without perspective and with command only of a technique of commercialized expediency. These latter are an obstacle to progress in Scientific Management. In respect of them it may be said, paraphrasing a sentence concerning politics from Sir Ernest Benn: the common garden variety of industrial engineering is the art of looking for trouble, finding it everywhere, diagnosing it wrongly, and applying unsuitable remedies.

Perhaps the most serious aspect of all is absence of suitable education and training in Scientific Management, and the failure to develop among industrial engineers and managers what may be called transferable professional ability reflecting command of a technique of approach to the discovery and development of a scheme of management for any situation wherever it may be found. While there are many educational institutions that offer training for business life, and some of them offer one or two courses with a management label, none of them teaches Scientific Management with the requisite perspective. Either consideration of Scientific Management is one element in a liberal course without technical substance; or if it be given a place in a technical course, attention is concentrated on mechanisms such as motion and time study. Scientific Management is really taught only when the scope embraces principles, philosophy and the pertinent mental revolution; and when every phase of the technique of fact-finding, development

of standards and making the indicated control arrangements is included in rational weighted relationship. To promote perspective Scientific Management should be taught in one comprehensive course covering production, marketing, top administration and employer-employee relations. One of Scientific Management's principal tasks is to give meaning to all the specialized instruction. Limited time and overspecialization at present make the instruction fragmentary and ineffective.

In the United States the significance of Scientific Management is beyond the range of interest of organizations of commerce and industry. To be sure, there are management societies, but these are associations of individuals rather than of entire industries or of all industry; and although they make much use of the term Scientific Management, they give too little attention to its substance. No association of manufacturers has a unit for promotion of Scientific Management or for guidance of its members in their attempts to develop it, which is in contrast to the example set by the Sveriges Industrieforbund of the country which is host of this Congress.

Scientific Management Not National

Although, because of a unique combination of circumstances, Scientific Management originated in the United States, the institution itself does not recognize nationality. It may find manifestation wherever organized activities of any nature are conducted, and wherever there is the motivation and intelligence required for its development. It is not at all improbable that in the future we shall see the highest development of Scientific Management in other countries and in smaller countries than the United States. The devastating influence of the recent world war on the economies of many countries provides the motivation; in them the necessity for intensive organization for recovery through most effective and economical utilization of human and physical energies is paramount. They are possessed of unexcelled intelligence. This combination of necessity, intelligence, and the availability of a proved and adaptable technique establishes the probability.

The Horizon of Scientific Management

Scientific Management, in essence a great social force, had modest beginnings more than half a century ago as a technique of conserving human and material energies at the isolated workplace. Its influence progressively spread to the shop, the entire

production department, the entire enterprise, and to the multi-plant enterprise. It was conceived as a technique of reducing waste, increasing productivity, and not only permitting but, so great is its dependence on good will and cooperation, requiring an equitable sharing of the increased productivity. It is a technique that may be employed in increasing and effecting equitable utilization of the human and material resources of an entire nation, but that calls for the same spirit of cooperation and good will on the national scale as is required in the workshop and the unit plant. It is a technique that may be employed in increasing and effecting equitable utilization of the human and material resources of an entire world. That requires on a still larger scale the same spirit of cooperation and good will as is required on the national scale.

We have but to lift our sights and explore the new horizon with nobler perspective. Never can the need for Scientific Management be more urgent than in a world torn to chaos by global war. Never can the way be more open for achievement than now, when habits and institutions and ideals and economies have been shattered, and we set ourselves to the great task of assembling the parts, revaluing them, rearranging them, and building a new world that affords life, liberty, assured livelihood, and the pursuit of true happiness, commonly shared, the world over.¹⁵

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when you are being paid by management, that you are impartial. It is not because you are dishonest! It is just not in the nature of the animal." And Solomon Barkin, Research Director, Textile Workers Union of America, CIO, *Modern Management*, Vol. VI, No. 5, p. 59: "Our problem is to meet your techniques as best we can in order to protect ourselves, and we are not always too resourceful in that respect. There are too many of the controls in your hand and we can't get to them . . . ultimate sanction is the acceptance by the workers. We have not found it, and until that degree of confidence and sanction is reached, it is going to be difficult to sell this type of technique as a matter of policy."

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Evolution in Organization During the Past Decade*

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Summary

THE author has subjected the term "organization" to strict construction and has limited the area of his discussion to private industry in the United States of America. The material upon which his observations and conclusions are based was derived from five sources enumerated by him.

The term "evolution" has, in the author's view, two aspects which should be given equal consideration. The first relates to the qualitative improvement which may have occurred during the past ten years; the second to evidences of retrogression or unsound evolution.

Tabulation of the returns received from all sources consulted resulted in the production of the following general picture: (1) development of the personnel function; (2) decentralization of management and

operation; (3) increased recognition and application of general principles of organization; (4) creation of new forms of organization for meeting increasing economic and social responsibilities; (5) improvement of techniques for policy formulation and execution.

The author considers and discusses each of these five phases. Finally, he expresses his general conclusions in the following terms:

1. To practically the same extent as now exists, the body of knowledge of fundamentals of organization has been available to industry for many years prior to the past decade;

2. What has occurred during the past ten years, largely under the impetus of war conditions, has been the increased acquisition by industry of such knowledge and its translation into practice.

I. Introductory

Essential Points of Departure

Consideration of a subject so pervasive in its implications as evolution in organization, requires at the outset that a frame of reference be established within the limits of which the discussion may be confined and integrated. For present purposes, therefore, the following postulates are recognized as controlling:

1. The meaning of the term "organization" should be subjected to strict construction, in order to avoid diluting the discussion with many tangential or extraneous considerations which, however valuable *per se*, are not properly responsive to the theme to be pursued;

2. The area to which the term "organization" is to be applied should be defined as relating to private rather than to governmental or other public undertakings; it should be restricted to industrial and similar enterprises in order that the material utilized may remain homogeneous in character and that at least one segment of chief interest may be subjected to reasonably adequate treatment;

3. The locale to which the observations and con-

clusions presented in the paper are to be confined is, by direction of the committee in charge of American contributions to the program of the Congress, limited to the United States of America.

Strict Construction of the Term "Organization"

It would seem advisable to enlarge upon the first of these postulates, which stresses the wisdom of strict construction of the term "organization."

As students of the problem have long been aware, this term has been variously defined. Indeed, the available literature, even when stemming from writers of recognized standing and ability in countries where prolonged effort has been devoted to analysis of its manifold ramifications, at times discloses strong tendencies to loose and inconsistent employment of the term. This is particularly the case in the United States of America, a circumstance probably traceable to the fact that American business men and industrialists, despite what may be assumed to the contrary, do not intuitively think in terms of organization.

Without embarking upon an extended interpretation of organization, it is nevertheless pertinent to point out that it is both a condition and a process; in other words, it is both static and dynamic. In the former sense, it represents a structure whose elements are so combined, developed and adjusted in relation

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to one another that in the attainment of the objectives set there will be present at all times effective co-ordination and control, as well as ready adaptability to changing conditions.

In the latter sense, organization is a continuous process which addresses itself to the substantial co-ordination of all human and material factors having an influential bearing upon the results to be attained, and to the creation and maintenance of conditions of balance which will allow the fullest possible utilization of these factors in the promotion of sound growth. Organization is a means to an end; its prime purpose is to facilitate co-ordination and control.

Sources of the Material Used Herein

The material upon which the observations presented in this paper are based, was derived from the following principal sources:

1. A special inquiry among sixty-eight industrial corporations located in a typical city of large size in the middle-western region of the United States;
2. Replies to communications addressed to sixty-one senior executives of as many corporations in numerous fields of business and industry, located in states lying East of the Mississippi River;
3. Inquiries sent to twenty-nine member firms of the Association of Consulting Management Engineers, professionally active in practically every state in some foreign countries;
4. Search of the publications of the American Management Association, the Society for the Advancement of Management, and the National Office Management Association, covering the period of the past ten years;
5. Reference to a series of selected reports on organization made by the author in his professional capacity for a variety of clients during the past decade.

It is incumbent upon the author to emphasize the fact that he alone is responsible for the opinions and conclusions herein expressed.

II. Specific Phases of Evolution Cited

Two Aspects to Be Considered

In approaching presentation of the major theme to be discussed, attention should be directed to the fact that there are two aspects of evolution in organization which should receive equal consideration. The one relates to the extent of the qualitative improvement during the past ten years; the other concerns itself with possible accentuation or extension of organiza-

tional misconceptions, drawbacks and faults during the period.

Inspection of the returns received from the various sources consulted, reveals a rather marked bias in favor of the recital of trends toward qualitative improvement of organization. In few instances only is it evident that those replying to the inquiries made were aware of the possibility that organization might not have advanced at all, or, indeed, might have developed aspects opposed to optimal conditions or tending toward diminishing returns.

In justice to those from whom information was received, it should be stated that the language in which the several inquiries made by the author were couched, did not point specifically to such a possibility; otherwise, the bias might have been much less pronounced.

Summary of Advances Cited

To keep within manageable proportions the information anticipated from the several channels of inquiry utilized, it was requested that respondents confine themselves to specification of the most important five advances in organization during the period in question of which they had knowledge. Tabulation of the returns received from all sources resulted in the production of the following general picture:

1. Development of the personnel function;
2. Decentralization of management and operation;
3. Increased recognition and application of general principles of organization;
4. Creation of new units of organization to meet increasing economic and social responsibilities;
5. Improvement of techniques for policy formulation and execution.

Within each of these five groups, which are listed without reference to their relative importance, numerous specific advances were mentioned by respondents. From the phraseology employed, it was evident, in a number of instances, that those reporting were prone to use more than one term to designate what was substantially the same observation; moreover, in not a few replies it was found that emphasis had been placed upon phases which could be construed as relating to organization only by a tortured definition of that concept.

The Negative Side of the Picture

A very small number of respondents, scattered throughout the groups consulted, placed themselves on record to the effect that no advances of note had

been achieved in respect of the factor of organization during the past ten years. Because of the bias previously referred to, the tabulation did not disclose anything worthy of emphasis on the score of the development of aspects of organization opposed to optimal conditions or causing diminishing returns.

In order that the negative side of the picture may be accorded the weight to which it is entitled in an appraisal of the kind here undertaken, the author sets forth below a series of views, formulated on the score of observation and experience, which he believes are pertinent to the status of organization in many American institutions at the present time. It is his judgment that not until after the eradication of the following rather common misconceptions, drawbacks, and faults will it become feasible to provide a sound foundation for evolution of more effective organization:

1. The failure to recognize that organization is a continuing process calling for periodic adjustment of structure and relationships;
2. The tendency to overelaboration which often does not stop short of seeking to make provision for almost every possible contingency;
3. The unwillingness to impose, for the sake of teamwork, justifiable restraints upon individual propensities to violate formal lines of organization established;
4. The inability to perceive that there are limits beyond which organization cannot be developed without incurring diminishing returns;
5. The illusion that it is possible to convey an appreciation of sound organization solely through the medium of a two-dimensional chart;
6. The assumption that the factor of increasing size gives assurance of an increasing rate of profit;
7. The surfeiting of top management with a flood of reports regarding the minutiae of daily operations;
8. The apparently growing belief that a controller is an official whose function it is to exercise control instead of to fashion the instruments by which control is exercised;
9. The time-honored practice of using committee meetings as a device for sharing responsibility, or even on occasion of dodging it altogether;
10. The atmosphere of power politics and "jockeying for position," which often surrounds top management and, in its more virulent form, usually strikes the deathknell of progress.

It is now appropriate to consider in some detail the general picture of evolution in organization as reflected in the five statements derived from tabula-

tion of the returns received from all sources. While the author is not privileged to disclose the identity of any of the individuals consulted, it may be taken for granted that their respective backgrounds and connections fully qualify them to speak with authority on any phase of the subject of organization.

III. Development of the Personnel Function

That development of the personnel function would be accorded high rank among the factors contributing to evolution in organization, was a foregone conclusion. With the occurrence of the economic collapse in the late nineteen-twenties and the long period of drastic readjustments and reforms following in its train, it was to be expected that governmental intervention in industry would grow apace and that it would take the form of enactment into law of many measures designed to ameliorate and to improve the conditions surrounding the vast mass of employed and unemployed labor.

A new epoch, known to American economic and political history as the "New Deal," was ushered in. A general philosophy calling for a more equitable distribution of wealth and for the provision of greater security to those toiling in the sweat of their brows, was expounded with utmost vigor by the political party in control. With bewildering speed, enactment followed upon enactment, until practically every major aspect of economic, social and political activity was brought under the scrutiny of the Federal government.

One of the early consequences of the new order was the investment of organized labor with greatly increased power and a realization of the fact that its growing rights and privileges placed it in a position to deal with employers on a much more nearly equal basis than at any time in its stormy past. Management, acting partly under the compulsion of new and unprecedented circumstances and to some extent also in recognition of the equities underlying many of the claims advanced by labor, found itself faced with the need for establishing on a better organized basis the intricate pattern of relationships with labor which had come to be the accepted order.

As an outgrowth of these developments, the function of personnel, or industrial relations, was rapidly advanced to a position of major importance and, in the case of the larger enterprises, placed under the control of an executive of senior rank, with a direct reporting relationship to the president of the institution. During the past decade, management was required to learn, often as the result of painful and

costly experience, that constructive composition of its relations with labor constitutes its single, most important task. It followed that, to do justice to the complexity and magnitude of the problems presented, nothing less than the most comprehensive and flexible type of organization of industrial relations would suffice.

Regardless of the extent to which the varied and complex phases of relations with labor have been subjected to sound principles of co-ordination and control, it is safe to say that from the point of view of organization the past decade has been merely a precursor of new developments. Industry is still far removed from resolution of basic difficulties along lines which will recognize ultimate mutuality of interests and thus pave the way for reduction to a tolerable minimum of the costly and bitter strife so inimical to the best interests of society. That organization will play a role of increasing significance in the attainment of this fundamentally important goal, may hardly be gainsaid.

IV. Decentralization of Management and Operation

The growing magnitude of business and industrial corporations has long been a phenomenon of our economic order. As such enterprises became soundly established, many of them sooner or later developed the ambition to undertake distribution of their products on a national, if not an international, scale. These developments served to impress students of organization with the belief that, if increasingly satisfactory operating results were to be achieved, centralized control would have to be supplemented with decentralized authority and responsibilities.

Now it has always been, until comparatively recent years, a rather general characteristic of American business management to view with disfavor any move in the direction of decentralization which carried with it the transfer of genuinely adequate authority from the home office to the field. This attitude represented the compounded effect of a number of different influences, among which it may suffice to mention a definite unwillingness on the part of higher executives to relinquish any part of their authority and thus, as many of them reasoned, to suffer a loss of prestige.

Evolution toward decentralization in the larger corporations formerly proceeded along lines which resulted in the establishment of networks of regional or divisional offices, each directing the activities of a number of subordinate branches or smaller operating

units. The affairs of these regional or divisional offices were wont to be conducted within limitations of authority and initiative that in most instances failed to provide an adequate background for successful exercise of the responsibilities assumed.

As for the plants whose products were to be distributed, the pattern of geographic location was influenced by a number of variables, such as freight rates, available power, sources of raw materials, concentration of skilled labor, character of transportation, proximity of markets, and the like. In this case, the question of authority was in many instances not squarely met, nor was there a disposition to give local executives a free hand in the management of the operations entrusted to them. The dominant element remained a high degree of functional control exercised by one or more executives of major rank at the home office.

These conditions and trends reversed themselves to a large extent with the emergence of American business from the baneful period of depression through which it was obliged to pass during the nineteen-thirties. The ancient lure to expansion of operations reasserted itself with increasing force, and the advent of World War II created demands quite unparalleled in character for almost every kind of product that the gigantic industrial apparatus of the country was in a position to fabricate.

The constantly accelerating tempo of performance dictated by the demands of armed conflict on a global scale, forced management to divest itself of many of its former notions and shibboleths. Nothing less than an "all out" demonstration of complete mobilization of available resources could be relied upon to cope successfully with the series of pyramiding emergencies that rapidly presented themselves. In these circumstances, decentralization, in the real sense of the term, was recognized as a necessary step.

Enterprise after enterprise applied the new pattern to its affairs and found itself faced with unprecedented problems by reason of the need for supplying formal training to its key men in terms of the new relationships brought into play.

Many of the industrial institutions that have followed the trend to decentralization are apt still to worship the form rather than the substance, a fact which is not astonishing when one stops to reflect upon the fundamental changes in points of view and personal capacity required to bring about a sound adjustment to the new order of things. Examination of recent literature on the subject of decentralization

discloses evidence of muddled thinking and failure to recognize that the principle may be pushed to extremes, thus exacting a penalty through violation of considerations pertaining to the optimum of size.

In any appraisal of future possibilities respecting evolution in organization, it is probably sound to assume that for a number of years to come the discovery and application of effective methods and techniques of decentralization will be among the problems whose solution will be of chief concern to management.

V. Increased Recognition and Application of General Principles of Organization

The economic, social and political events of the past decade could not fail to make sharp impacts upon the attitude of management. Whether acting under emotional compulsion or from conscious deliberation with regard to values inherent in the utilization of general principles of organization, executives have come more and more to recognize the advantages that may be derived from a comprehensive understanding and systematic application of such principles.

It is one of the detrimental results of large-scale organization that it tends to develop specialists thoroughly versed in the techniques of their respective fields of activity but fails at the same time to endow them with the capacity for objective visualization of all facets of the management problem. When in the normal course of events, specialists succeed to responsibilities in the field of general management, they are prone to lean heavily upon their former functional relationships. Thus, their actions in their new capacity are guided by whatever limited appreciation of the power of organization they may have derived from their earlier association.

The difficulties confronting executives of high rank in enterprises of great size are made more formidable by the fact that often they fail to grasp the extent to which application of sound principles of organization would contribute to their solution. Moreover, they are largely unaware that much of what is accepted today as good and enduring in organization was discovered long ago and may be utilized by them with little need for adaptation. Hence, they often conform in their approach to the definition that Disraeli once gave of practical men, namely, "those who continue to practice the mistakes of their predecessors."

It cannot be said too often that as executives rise higher in the scale of authority and responsibility, they tend to be concerned less and less with technical questions and more and more with problems of man-

agement; to do justice to these, they must plan, organize, co-ordinate and control. These four concepts define the substance of the task of management, but the task cannot be successfully performed unless executives develop the capacity for separating the essential from the unessential and for clearly perceiving the importance of adhering to certain directives which underlie all efforts toward improvement of organization. These the author submits in the following terms:

1. Establish the smallest number of levels of the structure essential to sound operation;
2. Place authority as closely as possible to the point where action originates;
3. Decentralize operations whenever territorial considerations become of importance;
4. Avoid overlapping of functions, but always bring related work together under one and the same control;
5. Distinguish clearly among the several zones which comprise the organizational structure, i.e., Administration, Management, and Operation;
6. Transform detailed information as quickly as possible into control information as it moves upward in the organizational structure;
7. Exhaust individual channels of performance before having recourse to time consuming and often abortive group action;
8. Establish sensible spans of control which take full account of the differing personal equations of individual executives;
9. Effect the widest possible application of the principle of separating planning from performance;
10. Always have a definite goal in mind, and on paper, in terms of which progress made in improving organizational conditions may be periodically appraised.

It may be postulated that whatever evolution has occurred in organization during the past decade has been influenced materially by growing recognition of the validity of directives such as those set forth. Indeed, it is not going too far to say that increased application of the general principles reflected in these directives, has been and remains one of the more important contributions to evolution in organization.

VI. Creation of New Units of Organization for Meeting Increasing Economic and Social Responsibilities

Students of organization are fully cognizant of the fact that increasing size of the business or industrial enterprise is almost always accompanied by increasing complexity of the organizational pattern, and

that much of the problem of organization is reflected in efforts to retain conditions of simplicity and flexibility. When one contrasts organizational plans in effect ten or fifteen years ago with those under which various institutions are operating today, it frequently comes with a shock of astonishment to note that no essential difference in pattern has occurred with the passage of time.

In accounting for this fact, the view may be advanced that it indicates: (1) a rather common tendency on the part of management to assume that once a plan of organization has been adopted, it should undergo change for only the most compelling of reasons; and (2) a well-known institutional attitude that strongly suggests a lack of desire to make material changes in the organizational pattern out of consideration for the feelings of executives whose functions might be radically modified, restricted, or otherwise changed in the process.

This is doubtless a familiar picture to many. In the circumstances, no voluntary improvement of organization is likely to be undertaken, and the result only too often creates out of the pattern in effect a liability instead of an asset. When changes do ultimately eventuate, they are frequently based upon such random occurrences as resignation, retirement, death or dismissal of executives, and are heralded by announcements to the effect that a "reorganization" will be undertaken.

It is a safe assumption that those responsible for such announcements have little, if any, awareness of the fact that use of the term "reorganization" represents in effect an indictment of existing policies and practices, for it reveals that the changes have come about not as the result of deliberate and constructive planning, but rather because of lack of preparedness or a persistent disinclination to keep the organizational pattern abreast of current needs from the evolutionary viewpoint.

Whatever forces may have been at work during the past decade to modify organizational plans, it should be recognized—and, indeed, the sources of information consulted by the author bear this out—that increasing economic and social responsibilities which management has shouldered, either willingly or by yielding to the impacts of public opinion, or by legal compulsion, have been the cause of incorporating several new units of organization in the conventional pattern maintained.

In support of this statement, reference may be made

briefly to such organized activities as economic research, public relations, product development, training, safety, security, planning and control. All of these were in effect and had reached various stages of development ten years ago, but it is doubtless correct to say that due to the conditions which arose as the result of World War II, they underwent increasingly rapid growth and are today so deeply rooted in practice that they represent indispensable elements of the organizational structure.

Economic research yields knowledge of underlying trends essential to the formulation of sound plans for the future; public relations addresses itself to the attainment of good will through interpretation of institutional policies to employees, consumers and the general public; product development has as its objectives increasing the hold on markets exercised by present products and aiming at diversification so as to enhance profit making possibilities and distribute risk; training, safety and security are aspects of industrial relations which are of constantly growing importance; planning and control constitute major functions which determine the business course to be followed and insure that it will be closely adhered to at all times.

VII. Improvement of Techniques for Policy Formulation and Execution

As a concomitant of large-scale industrial enterprise, the growing significance and importance of the function of administration began to manifest itself. However much the individuals in whose hands rested the ultimate responsibility for success or failure of the undertaking were wedded by inclination, precept and practice to the exercise of autocratic power, sooner or later they learned that they were permanently confronted with two sets of conditions, the one controllable, and the other non-controllable. It behooved them, therefore, while exploiting the former, which related to internal operations, to make the best adjustment of which they were capable to the impacts of the latter, involving the sweep of general economic, social and political currents.

To visualize the changes that have occurred during the last generation in the composition and difficulty of the administrator's task requires a rather intimate knowledge of many phases of business history and economic development. It may be accepted as a fact that in response to the needs of the times there began

to emerge at the top level of organizational responsibility in institutions of large size, groups of men who had acquired the capacity to qualify as chief coordinators and to exercise effective control through policy determination.

It is not to be assumed that members of such groups attained the level indicated by a casual and speedy metamorphosis from management to administration. As a matter of fact, it took many years to bring about fairly widespread recognition of the essential distinction between these two functions, and this was often hindered by a frequently encountered fusion of administration and management in one and the same person.

While such a combination of faculties is often necessitated by the limitations of personnel and organization with which an enterprise is confronted, it cannot be gainsaid that the condition is apt to have a restrictive influence over both functions. Even where such limitations do not exist, administration and management are often found to overlap, because members of the management group are allowed to act also as administrators, that is, to serve as members of the policy-making group.

Without going too far afield, it is not possible to describe fully the general development which has occurred, especially during the past ten years, in the organization of administration. Institutions concerned with the problem have not been slow to recognize that because of the grave uncertainties surrounding the administration of business under the conditions which have prevailed for so long a period of time, reliance must be placed more than ever before upon the development of a structure of administration that will safely bear the mounting burdens imposed upon it.

The extent to which improvement of techniques for policy determination and execution has been achieved, is brought graphically to expression in the accompanying chart, Organization of Administration. This chart reflects a goal whose attainment is still far in advance of the present status of administration in a high percentage of American business and industrial enterprises. Whatever progress has been made during the past ten years, it is much to be desired for the sake of future stability that development of the function of administration be accorded high rank among the problems to be solved by our business and industrial leaders.

VIII. Some Tenets of a Philosophy of Organization

In bringing to a conclusion this brief dissertation on evolution in organization during the past ten years, the author believes that it may be of value to put into concise form a statement of some tenets of a philosophy of organization which, as the result of long study, reflection and practical experience, he has come to accept as thoroughly sound.

It is his conviction that if progress is to be made in organization, executives must subscribe wholeheartedly to the truth of the following tenets and always act upon their implications:

1. To adhere to the substance of organization rather than to worship the form in which it is cast;
2. To view organization as a means to an end, rather than as an end in itself;
3. To recognize the values inherent in improvisation, rather than to rely exclusively upon the virtues attaching to organization;
4. To insure liberation of human energies rather than their suppression or regimentation;
5. To respect the authority of knowledge rather than the authority of position;
6. To strive for the maintenance of loyalty on the part of executives to their subordinates, rather than stress the essentiality of the reverse process;
7. To develop well-rounded and intellectually well-balanced executives, rather than one-sided and narrow specialists;
8. To imbue executives with a spirit of tolerance toward one another, rather than permit the existence of conditions productive of intolerance;
9. To inculcate in the minds of executives the wisdom of rendering themselves dispensable, rather than of cherishing the illusion that they are indispensable;
10. To sacrifice almost any other value rather than cause injury to the foundations upon which inspiring leadership rests.

In reviewing what has been presented in this paper, the author is of the opinion that evolution in organization during the past decade may best be summarized in the following general conclusions:

1. To practically the same extent as now exists, the body of knowledge of fundamentals of organization has been available to industry for many years prior to the past decade;
2. What has occurred during the past ten years, largely under the impetus of war conditions, has been the increased acquisition by industry of such knowledge and its translation into practice.

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Union Education of Workers in Management Procedure*

BY CLINTON S. GOLDEN

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Summary

IT is a characteristic of labor organizations that in their early formative period their chief concern is to extend their membership and consolidate their position.

Historically they consider ownership and management synonymous: That they have no responsibilities related to the management function. Unions usually arise out of conflict. Until fully accepted by management, and well integrated into the community, they tend to be parochial in outlook and behavior.

Their training programs in the formative period, both formal and informal, are directed principally toward creating a well knit, cohesive, enduring unity. They assume, with some historical justification, that management does not want employees to organize: That extending recognition to and dealing with them will be done only under economic pressure or by governmental direction.

Thus a rift or breach in the relationships of two groups essential to the operation of the enterprise develops. It is more likely to widen than narrow until such time as the union becomes so well established and self confident as to feel secure in a hostile environment or until management succeeds in convincing the union that it has no designs intended to destroy or weaken its organizational unity, status or integrity.

As unions achieve security and stability they tend to increasingly rely upon the trained technicians to assist them in dealing with technical aspects of the industrial relationship. The presence of the technician in the employ of the unions and their association with staff representatives and union members has informal educational value.

Joint participation of union and management representatives in developing solutions to certain problems of technical nature, such as job evaluation time studies and reorganizing the wage rate structure provides further opportunity for understanding management procedures.

In the more stable phase of their development when they are confident of the security of their organization . . . When the fighting phase is over. . . Their interest in more formal educational and training programs tends to increase. This is evidenced by their growing use of the teaching skill of educators and the facilities of colleges and universities and their moral and financial support of educational institutions and training project designed to help the climate of relationships.

The Formative Period of Unions

The interest of labor organizations in acquiring knowledge of management procedures is not likely to be manifest or to develop until the Union becomes well established and is granted some form of full recognition by management. The extent of the interest is then dependent upon the nature and character of the relationship with management.

The attitudes exhibited by Unions toward management will fall into two broad general classifications. They will either be distrustful and antagonistic or exhibit confidence, respect and willingness to cooperate.

To understand these attitudes and the reasons back of them it must be kept in mind that Unions are usually born out of conflict. They rarely come into existence as a result of rational and logical thinking on the part of the workers or with understanding and legitimate encouragement on the part of management.

As a rule they do not take form unless there exists a feeling of resentment against real or fancied injustice. They then appear as a form of protest and express that primitive instinct of association leads to the development of a consciousness of strength gained by joining together with one's fellows, either as a matter of protection against an adversary or to attain common purposes or goals believed to be related to the welfare of the group.

This consciousness of strength of power by a Union can be either a positive and constructive or a purely negative factor in the industrial relationship, depending largely upon the attitude exhibited by management toward the organized group.

* This paper was prepared for presentation at the 8th International Management Congress, Stockholm, July 1947, and is reproduced with the permission of the author and the Congress.

Traditionally, the attitude of most Unions is that management and ownership are synonymous. Their function, therefore, is to own and manage. The workers are employed to work at wages no higher than management is required to pay in order to be assured of an adequate supply of labor. The function of the Union, therefore, is to extract all concessions possible from management in the form of higher wages, shorter hours, improved conditions of employment and job protection. They do not envision a status of responsible participants in a common or joint endeavor.

In short, "Management is paid to manage and workers are paid to work," and their interests, therefore, are more likely to be antagonistic than mutual. This attitude can be understood if it is kept in mind that historically employers and management have resisted, frequently with great militancy, the efforts of workers to organize into Unions.

This resistance has been at once the basic cause for much of our past industrial conflict and the reason for much of the legislation restraining employers from interfering with the exercise of the worker's right to organize and bargain collectively.

Fortunately, there is increasing evidence that Unions are coming to recognize that the acquisition of power through organization necessitates the assumption of a greater measure of responsibility on the part of the organized group than is usually expected of the unorganized individual employees.

In trying to measure the extent of Union interest in understanding management procedures, it is important to keep in mind that Unions have, as a result of aggressive organizing effort backed by legal sanction, expanded greatly and won wide recognition from employers. More or less, unwilling recognition from employers. More or less, unwilling recognition is vastly different from full and genuine acceptance as legitimate social organisms.

Employers are under legal compulsion to extend recognition to Unions as "bargain" agencies representing the employees when certain legal requirements are met. Whether they like the idea or not is immaterial. Their dislike is frequently dramatized in the minds of the workers by management's frequent practice of invoking legal technicalities and court action designed, as they think, to forestall recognition.

Such action has the effect of fixing in the minds of many Union officers and members the idea that management not only resents the existence of the Union but would rather fight it than attempt to work with it.

Initial Interest in Education

In such a climate of conflict the Union is always prepared to fight back in order to maintain its organizational status and integrity. Under such circumstances, knowledge of management procedures has usefulness only to the extent that it may be used to aid in the fight.

There is evidence to indicate that a growing number of employers no longer want to fight the Unions over the issue of their right to exist. That fact is probably not yet widely recognized by the Unions.

Until such time as the Union officers and members become convinced that management is acting in good faith and has no designs against the organizational status and integrity of the Union, their concerns about education will be directed toward training programs that will enable them to consolidate the position of the Union and make it as nearly invulnerable as possible against presumed employer or management attack.

In some instances Unions have developed extensive educational and training programs directed toward the achievement of these ends.

Efforts directed toward the creation of a climate of relationship in which Unions can be relieved of their fears and anxiety about management's probable hostility toward them is a comparatively recent development. Such a climate has been created in enough instances to indicate the wider and greater possibilities.

Where circumstances are favorable to the development of an educational program that envisions an understanding of management procedures, both formal and informal methods are used.

Informal Training

Seasoned union leaders look upon union meetings, policy committee meetings, formal joint conferences and joint participation in job evaluation and time studies with management representatives as being a part of an educational process. Even the process of "getting acquainted" with management people is presumed to be of educational value.

In recent years, and coinciding with the rapid growth of Unions, the practice of employing trained technicians such as professional research workers, economists, statisticians and, in some instances, industrial and other engineers has become widespread. Such technically trained people engaged in gathering and assembling economic and industrial data for use particularly in wage discussions and contract negotiations, coming into intimate personal contact with untrained

rank and file workers, serves to broaden the interest and understanding of the workers in economic and social problems.

Because of the rather recently acquired influence of labor organizations in American life, a considerable number of their officers and members were enlisted to aid in mobilizing our economy for the war effort. This not only served to enlarge their area of participation but also to familiarize them with the interdependencies and complexities of our economic system and the necessity for all social groups to work together in the common endeavor to win the war.

The exposure of the Union members to association with management and government representatives, many of them highly trained specialists and technicians, is considered to have been a valuable and useful informal educational experience.

Because of the concern about the emphasis upon "democracy" in the labor movement, there is a natural limitation on the number of technically trained specialists who can be employed to serve labor organizations. The opportunity for members of unions to advance themselves within their organizations and carve out a career of service therein cannot be foreclosed in a democratically functioning union.

In order to explore the possibility of discovering within its own ranks the presence of workers with some academic and scholastic background, the officers of one large union* instituted a survey in some of the plants of the larger companies with whom it had contracts.

Several people were found who had graduated from engineering schools at the beginning of the 1930 depression. They had been unable to secure professional employment at the time and, as a last resort, had secured employment at whatever jobs could be had in the production operations. By the time the depression ended they had married, in some cases, and had families and were unable to lose time in search of the professional employment they had trained for.

Some fifty such men were selected and provided with instructional material by a competent Union staff engineer. In as much as many of the grievances with which the Union had to concern itself developed out of the application of industrial engineering techniques, these men were assigned to specialize in the adjustment of such grievances and complaints.

Linking together the background of technical training and the practical problems confronting Union officers and committeemen provided an opportunity

for these men to resurrect and refurbish their technical knowledge and apply it to the solution of technical problems. Once the opportunity to make use of previous technical training became real, several of the men enrolled in what amounted to refresher courses in evening schools conducted by the engineering departments of colleges and universities.

Later on when a joint survey of the wage rates and job classifications of a large corporation was undertaken, six of these men were selected to work with a similar group of industrial engineers employed by the corporation. The survey began after the joint group had agreed upon a simple and concise form of job description. The jobs were then described by management and the description checked by the Union representatives with the men on the job. Then began the collection of data regarding rates and earnings on each job, evaluation of the job, reduction in the large number of classifications into proper relationship with each other.

These Union and management technicians worked together for over two years on what is probably the largest and most comprehensive joint effort ever engaged in by a Union and industrial management. They worked together harmoniously and completed a highly complex and difficult task to the mutual satisfaction of their respective principals. They have created a technique for joint participation in the process leading to the establishment of an understandable and rational wage rate structure involving hundreds of thousands of employees.

That this joint effort on the part of Union and management representatives has been a valuable and informal educational experience is readily admitted by the participants. In the process of checking job descriptions with thousands of men on the jobs described, Union representatives and members have learned much about management procedures and practices. For the first time a large number of employees of a large corporation have had an opportunity to penetrate and understand what previously been to them some of the mysterious procedures of management. Perhaps the most valuable by-product of this effort was the fact that Union and management technicians came to know and understand each other better as a result of this intimate and long association.

Formalized Training

Turning our attention to a more formalized training program, a brief examination of the curricula developed by a joint committee of Union representatives and

* The United Steelworkers of America, CIO.

faculty members of a large state college will provide illustrations.

A large Union operating in the steel and metal fabricating industries entirely on its own initiative, arranged for a series of four one week Institutes, each to be attended by one hundred local union officers and members. Among the subjects for study and discussion were:

THE METALS INDUSTRY:

Geography.....Production and Price
Policy.....The Industry and its Technology

These subjects were inter-related to courses dealing with certain aspects of the collective bargaining contract; the Union Member as a Citizen; Personal Problems and Adjustment; The Labor Union in Community Leadership and Group Relationships.

Actual participation in classes was required six and one-half hours daily for six days. Sustained interest is indicated by almost 100% attendance throughout the institute period.

An important executive of a large corporation having a contract with the Union enrolled as a participant in one of the institutes. So impressed was he with the interest and seriousness of the students and their eager and intelligent participation in the group discussions that his company subsequently proposed to the Union that it join with the company on a co-equal basis in financing a School of Industrial Relations at a college in close proximity to the main plant of the Company.

The same Union, in cooperation with the Extension Department of the State College, is encouraging its members to enroll in extension courses dealing with various aspects of industrial relations. In view of the difficulty experienced by most adult workers in leaving their jobs and families to go to a resident school or college for an extended period, the summer institute and the extension courses seem to offer the best means for enrolling the largest number of Union officers and members.

Based on the experience gained during the summer of 1946 with the organization and operation of the Summer Institutes, preparations are being made to extend this program into several other states where the Union has extensive membership and educational institutions are prepared to cooperate.

Due to the fact that this Union is the largest and most influential in the mass production industries, if not in the entire country, its interests and activities have been described at some length. Because of its

influence and stability, its educational interests and programs will greatly influence the thinking of other Unions.

Resident Courses

Several years ago the Business School at Harvard University established several Trade Union Fellowships. These have been awarded annually to a small number of carefully selected Union representatives who have careers assured in the administrative work of their organizations.

The three principal courses in the eight months program of study are Economic Analysis, Trade Union Problems and Policy and Human Problems in Administration. In addition, several of the Trade Union Fellows have taken courses in Management Controls, and Production Organization and Engineering.

The Business School faculty members believe that valuable by product of this experiment is that of bringing Union representatives into close and intimate personal contact with management representatives, not only in classes and seminars but in the living halls and dormitories.

The recent establishment of the Labor and Management Center at Yale University provides further evidence of the growing interests of educators in providing training facilities for both Union and management representatives in the field of human and industrial relations. A policy committee composed of an equal number of faculty, management and Union representatives work closely with the Director of the Center in planning research projects, and developing curricula and enlisting the interests and support of both industry and the Unions in the project.

For resident work the courses are limited to four months. Both management and Union people in approximate equal numbers enroll as students. The courses offered deal with the National Economy; Collective Bargaining and Unionism, Economics of Wages and Labor Legislation.

Management students thus represent the most important industries in the New England area while seventeen different unions are represented by the labor students.

Research in Human Behavior

The faculty and staff of the Center are engaged in extensive fundamental research in human behavior in industry. Among the research projects under way are:

Determinants of the Reaction of Workers, Management and Union Leaders to Each Other.

Determinants of Industrial Union Wage Policy.

Employers Hiring Policy and Practice.

Effects of Technology on Industrial Relations.

Unions and Industrial firms are cooperating with the faculty and staff in making this research possible. Both are contributing financial support and students in the Center. On the Union side it is confidently expected that the labor students will, by study and intimate personal association, gain a greater knowledge and understanding of management practices.

Post War Transition

The conflict and attendant difficulties that characterize the postwar transition period thus far cannot be accurately or exclusively attributed to the policies, actions or conduct of either Unions or management. They grow out of abnormal psychological, social, and economic maladjustments caused by a world war of colossal proportions. Long range forecasts concerning the nature of future Union-management relationships should not be based solely on present records.

Unions, for the most part, are no longer the furtive, unstable and insecure organizations they once were. Through their numerical growth and extension of influence most of which has occurred in the past decade, they have become instrumentalities of great social and economic significance.

The Management of Unions

They have been likened to "big business." They too have "management problems." To intelligently ad-

minister the affairs of their own organizations requires knowledge and use of sound management procedures. Their activities result in the handling of millions of dollars annually; their accounts must be submitted to audit periodically. They are in the publishing business extensively; they own real estate and are responsible for the safe and prudent investment of reserves. They employ large numbers of staff representatives, clerical, technical, and other employees. They have real estate, workmen's compensation, payroll and social security taxes to meet. Their personnel relations must be handled in the framework of democratic tradition and procedure.

Conclusion

That Unions, after long and unremitting struggle, have achieved legal status and have an important social function in a free enterprise society is admitted by many influential and conservative industrialists who have vigorously opposed their growth in the past. There is great need on the part of both industrial management and Union leadership for extensive personal readjustment and psychological reorientation.

For the most part, both industrial management and workers want to work steadily and regularly in peaceful relationship. The extent to which they can actually do so, depends on the capacity for adjustment, the training for teamwork and the creation of an environment congenial to cooperative and constructive endeavor. In this effort they have broad individual and joint responsibilities.

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An Experiment in Group Dynamics

By ROY WILLMARTH KELLY¹ and HOLLIS F. WARE²

IN the offices of the Council of Personnel Administration in Washington, D.C., a principle is frequently advocated which may be thus expressed: "No decision becomes really effective until it received universal acceptance." This idea reflects a bit of long established Quaker doctrine. No Friends meeting ever takes a vote by which the will of the majority is imposed as an unwelcome tyranny upon an unconvinced minority. Either a "unanimous sense of the meeting" is reached, or the proposal is dropped in the belief that with good will an acceptable solution can be found. The same principle which brought harmony to the city of Brotherly Love lay at the foundation of the success of the Council in its efforts through group meetings to gain professional status and widespread acceptance of new principles in the field of Personnel Administration.

Leaders who are beginning to utilize the new philosophy developing around industrial group dynamics are merely making effective capital out of two elementary psychological principles: "No human being is ever compelled to do anything. His actual performance is always determined by his voluntary choice," and, "High enthusiasm for worthy objectives is usually based on complete understanding and willing acceptance of both conditions and motives." Whether the group be large or small, whether they represent labor or management, there is a resentful feeling against tyranny imposed from without until doubts have been resolved and methods and objectives have been accepted as the natural result of full and free discussion.

A noteworthy piece of experimentation is now going on in this field among employees of the Harwood Manufacturing Corporation. Executive offices of the Corporation are located in New York City. Its principal plant, manufacturing a textile line, is in Marion, Virginia, a small city near the foot of the Shenandoah Valley, where about 800 persons are employed. There is a second smaller plant in Abingdon, Virginia, with about 150 employees. The larger plant has been in operation 11 years; the other a little more than 2 years.

The line is highly competitive, consisting of men's shorts, pajamas, slacks, hospital coats, and a medium

priced line of sportswear. The success of the company in obtaining production economies and in meeting other competitive conditions is evidenced by an unbroken profit record covering the last ten years.

Harwood's President, Dr. Alfred J. Marrow, and his Personnel Manager, Lester G. Coch, are somewhat unusual figures in the textile world because of their background of training in psychology. Assisted by Dr. John R. P. French, Jr., New York Psychology Consultant, a series of fairly well controlled experiments have been conducted with the aid of the Corporation's operating staff and the full cooperation of its employees, nearly 80% of whom are women.

During 1943, Dr. Marrow and his associates decided that important operating changes would be necessary to obtain essential war production of garments needed for the armed forces. Encouraged by results secured from previous psychological experiments, and armed with data collected from research at the Massachusetts Institute of Technology in which Dr. Marrow was interested, it was decided to institute a full scale study with a view of improving morale, reducing labor turnover, and increasing production.

The first steps were relatively small scale experiments with individuals and groups. This led to further adaption of the findings which finally resulted in a fairly complete program of activities based primarily on psychological applications.

The first point of attack was upon the excessive turnover rate during the first few days of employment. Preliminary studies indicated that better orientation was necessary to enlist the new employee's interest and cooperation. This was designed primarily to overcome the discouragement which attends entrance upon any new and unfamiliar situation. Taking alternate employees, 25 were given the brief, somewhat superficial induction procedure previously used. The other 25 each talked personally with a trained woman interviewer who established friendly relationships, introducing them to those persons with whom they would be associated later at work.

Records were kept of the history of the 50 employees comprising the two control groups for a month. During the first 30 days a high percentage of those who were put to work directly without preliminary orientation

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training had dropped out. This trend was quite completely overcome with the second 25 employees, nearly all of whom made satisfactory progress and remained on the job.

Further investigation of this subject led to other improvements. When a prospective employee's future work is being discussed, the idea is emphasized that the work is likely to seem very hard at the start. She may have an aching back for a few days until she gets used to it. On other subjects, however, the general tendency is toward constructive or positive statements designed to build confidence in the company and in the applicant's future associates rather than permit negative ideas to take root.

The induction procedure avoids giving the employee the idea that she can produce immediately and easily at the high level which she can later hope to attain. She is told not to worry if the production during the first few weeks fails to reach the average "level of expectation." In spite of this probability the door is held open as to the possibility of future high earnings by telling her how much the very best employees have produced after training. This is called the "level of aspiration" and the hope is held out that if she is an exceptionally good worker, she may attain that level and earn a correspondingly large amount. Most employees fall somewhere between these two levels, but it is believed to be important that they do not expect too much at the start or they may become discouraged.

During the basic training period all employees receive a guaranteed minimum rate until they reach an established production level. When this is reached, payment is based on points under a plan somewhat similar to the Bedaux system.

The idea of friendship and congeniality is constantly emphasized. The employment interviewer remains the counsellor of the new employee through her first weeks, although her direct training is accomplished by others. The interviewer is known as the employee's "first friend." The head of the training department, to whom she is introduced immediately afterward, is her "second friend." The trainer or key employee immediately responsible for her first few days induction becomes her "third friend." There is systematic effort to build up a strong chain of friendship which will tend to make the new adjustments easy and bind her to the job until she attains satisfactory production levels.

These preliminaries help to a better understanding of the outstanding accomplishment of the series of experiments. This is in the field of encouraging voluntary group decisions among employees. One of these

typical efforts centered upon getting employees to come in for extra work on Saturdays. At a certain period the production line on a certain item was falling behind because finishers could not produce sufficient volume. This made it necessary to have employees come in on Saturday. When the Supervisor requested each employee individually to come in, some agreed but others refused. The net result was that no one came in. The Personnel Manager then suggested that the Supervisor call the employees together so that he could meet with them. After preliminary discussion of the vital necessity of getting the production out, employees were asked if they were willing to come in on Saturday. The natural leaders of the group readily assented. The others after some conversation gradually agreed. No vote was taken but a group decision was reached in which all were involved and to which all were voluntarily committed. The result was full attendance on Saturdays until the entire backlog of unfinished work was completed.

One of the first groups on which this procedure was tried was employed on a production line where the output had become unsatisfactory. The entire group stopped work and were taken into the conference room. Free, friendly discussion began about the production problem. Suggestions were requested for improvement. At first there were a series of complaints: the supervisor was not helpful; the management expected too much of them; machines were out of adjustment; the lighting was poor.

Then they were asked to state how much they thought they could produce if these matters were corrected. Gradually a consensus was reached with the result that the company representatives promised full cooperation in eliminating the retarding factors and the group went back to work. This method resulted in approximately 20% increase in production with improved morale.

A series of experiments of this kind led eventually to the selection of permanent representatives of the employees. Each group of employees making a particular kind of garment selected a representative, known as a "group captain," by secret ballot. During the war period these captains functioned as a labor-management committee. Their responsibilities were gradually broadened to deal with numerous problems not immediately related to production. These included: employees' services; wages and hours; employee activities; control of the "Music while you work" program; the timing and nature of announcements; handling of grievances.

The group not only brings information to management as to matters causing grievances or loss of production, but they serve to disseminate ideas from management to the employees in a friendly and informal manner. Meetings are always planned to reach group decisions, rather than through the use of arbitrary short cuts to impose a majority vote upon an unwilling minority.

In discussing his ideas and the results of his experiments, Dr. Marrow emphasizes these points:

"Often a considerable amount of time is apparently wasted in general discussion without making any perceptible progress. This is quite essential. Members of the group must take time enough to get off their minds various seemingly minor matters that are bothering them. To the psychologist this is known as 'catharsis.' When enough steam has been let off, it is possible to pick up from matters discussed those items having a practical bearing on the immediate problem. The group is then led to discuss these subjects more fully. Facts are drawn out from common experience which will tend to develop a solution. Some members are always quick to recognize the implications of the facts and someone usually makes a convincing statement. Gradually the other members of the group through a process of association and a natural tendency to lean on the leaders who first suggest a solution, come around to agreement. This process cannot be hurried. The person guiding the meeting must make sure that the decision is wholly natural and unforced. Once this is done the group is said to be 'involved in the decision' and it carries conviction with all of them, even though a few may still be somewhat doubtful. The feeling of employees that they themselves have discovered a solution carries a weight which no mere order or enforced adoption of a solution could carry."

In conducting such meetings an enthusiastic, trained leader is vitally necessary. Seating arrangements are significant. If the leader sits at the head of the table, or in some other distinctive position, he can fail to become a part of the group. Successful leadership means establishing full rapport with the group, which is never accomplished if the leader sets himself apart by any method. A third significant item is that the structure of the meeting, that is, the manner and timing of its progress, is more important than a time table. Plenty of time must be taken for airing the views of the members of the group, even though they at times seem to have slight bearing on the immediate problem.

Supervisors in Harwood plants meet weekly. Discussion in these meetings follows the general pattern now followed by the company in reaching group decisions. Suggestions received through supervisors' meetings are given consideration by the management in the same way as decisions reached in group captains' meetings. The value of training in the group captains'

program is recognized by promotions to positions as supervisors or assistants.

Although the initial experimental period was concluded almost two years ago, management still thinks in experimental terms. Extensions and new applications of the program are constantly being made. Special emphasis is put on the point that all direct or implied promises made to employees are faithfully kept. Confidence created by this attitude is enhanced by willingness to adopt suggestions even when they cause considerable difficulty or expense. For example, when employees voted for weekly pay checks, the change from the previous bi-weekly system was made even though the pay roll expense was substantially increased. It was believed the additional expense was justified by the assurance that the employees were better satisfied with the new payment plan.

Harwood is carrying out a long range program of experimental research on methods of leadership training. One of the key tools in this program is the use of role-playing to demonstrate how situations which arise in the plant may best be handled.

Here, in brief, is an example of how role-playing works. A problem arises which the people involved do not know how to settle, either because they lack the necessary skill or because unknowingly they have been given an impossible assignment. For example, a foreman is given strict orders to cut down on labor turnover and at the same time to more rigidly enforce the rules about absenteeism. He now finds that when he gets tough with the absentees, they threaten to quit and thereby increase the turnover and that if he is lax with them, the absentee rate increases.

In such a situation, the staff are called together and are encouraged to *act out* the problem and ways of dealing with it. Sometimes they will be asked to act in their own roles. Sometimes they will reverse roles. The subordinate for example, will act the role of the superior who gave the orders and the superior will act the role of the subordinate. It has been said that one picture is worth 1,000 words. On the same scale, one role-playing session would be worth 100 lectures. No amount of reading, conferences or lectures can substitute for actually living through a situation. The role-playing offers the only realistic way of "living through" many situations. Moreover, it is dramatic and at the same time, realistic—probably as close as possible to actual job performance. Moreover, through the device of playing reversed roles, subordinates and superiors develop insights into each other's problems that they would otherwise not be likely to achieve.

The higher up, for example, playing the role of the foreman learns vividly that it is not good to place an employee in a situation where whatever he does is wrong. He learns this in a way that no amount of talking or discussion can accomplish.

Moreover, in real life there is no turning back the clock,—a word once spoken, for example, cannot be withdrawn—in the sociodrama it is possible to repeat the same situation again and again and to deal with it in different ways. What is more, there are the benefits of group discussion and criticism of each of the different ways. The foreman in my example, for instance, can tackle his "latecomers" in different ways and without running the risk of having them quit on him. Finally, the sociodrama offers the possibilities of

repeatedly practicing a role, and developing skill before the occasion for applying it in real life arises.

McCormick's multiple management plan has several ideas in common with the Harwood experiments. One item particularly noteworthy is McCormick's insistence upon unanimous agreement before recommendations made by employee boards are considered for adoption. A surprisingly large volume of suggestions finally reach this stage of unanimous consent, thus giving them a weight and impetus toward later practical adoption which they could not otherwise have. As at Harwood's, a minority is never overridden in haste to get action. Without good will, the problem may as well not be solved, since ultimate results are sure to be disappointing.

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Effective Controls for Top Management*

By A. E. WEROLIN

McKinsey & Company
Management Consultants
San Francisco—New York—Boston

EVERY top-management executive has an important over-all responsibility in his individual company to realize fully and effectively an opportunity to uphold our American business system. In accomplishing this, top management must be mindful of its obligations to stockholders, employees and customers, and to the public in general.

To fulfill this responsibility, it is necessary for top-management to determine accurately the common objectives toward which the efforts of all members of an organization shall be directed. It must coordinate, guide and control the activities of the various elements of the business in an effective manner.

Although company officers may place primary reliance on chosen executives to carry out company policies and to supervise operations, the responsibility of management does not cease with this allocation of duties. Means must be provided to assure top management that the organization is functioning properly, that personnel and capital are effectively utilized, that policies are understood and observed, that methods, procedures and facilities are adequately provided and operated.

Let us examine this situation, therefore, and consider the control media and control agencies required for effective business operation and development. And let us look at the specific experience of several companies which have employed these devices.

Before doing so, however, we should be sure we are all thinking in the same terms with respect to the meaning of "control." A dictionary would tell us that control means "to exercise a directing, restraining, or governing influence over some activity."

To exercise a "directing influence," obviously an executive must have some purpose, aim or objective in mind toward which he is endeavoring to guide his division of the business.

To exercise a "restraining influence" the executive must have some measure, value or yardstick represented in the performance expected under current operating conditions.

And finally, to exercise a "governing influence" there must be adequate lines of authority and responsibility by means of which the necessary planning, directing, and coordinating activities can be effectively administered and correctly adjusted to changing conditions.

Thus, "control" could be said to be the guiding action taken by a management executive on the basis of intelligent information.

Control is a responsibility of all executives regardless of company size. The more important the executive position, however, the greater the responsibility for control becomes. Our discussion will be confined primarily to the types of control available to top-management executives.

If you will refer now to the first illustration, you will see top management in the center of the chart hard at work on the jigsaw puzzle of running a business enterprise. Its primary job is to fit the various functions of the business together so that they will mesh perfectly, be coordinated effectively.

Available to top management for assistance in this job are several types of control media and several important control agencies. On the left of the chart you will find some of the more important control media or devices, such as:

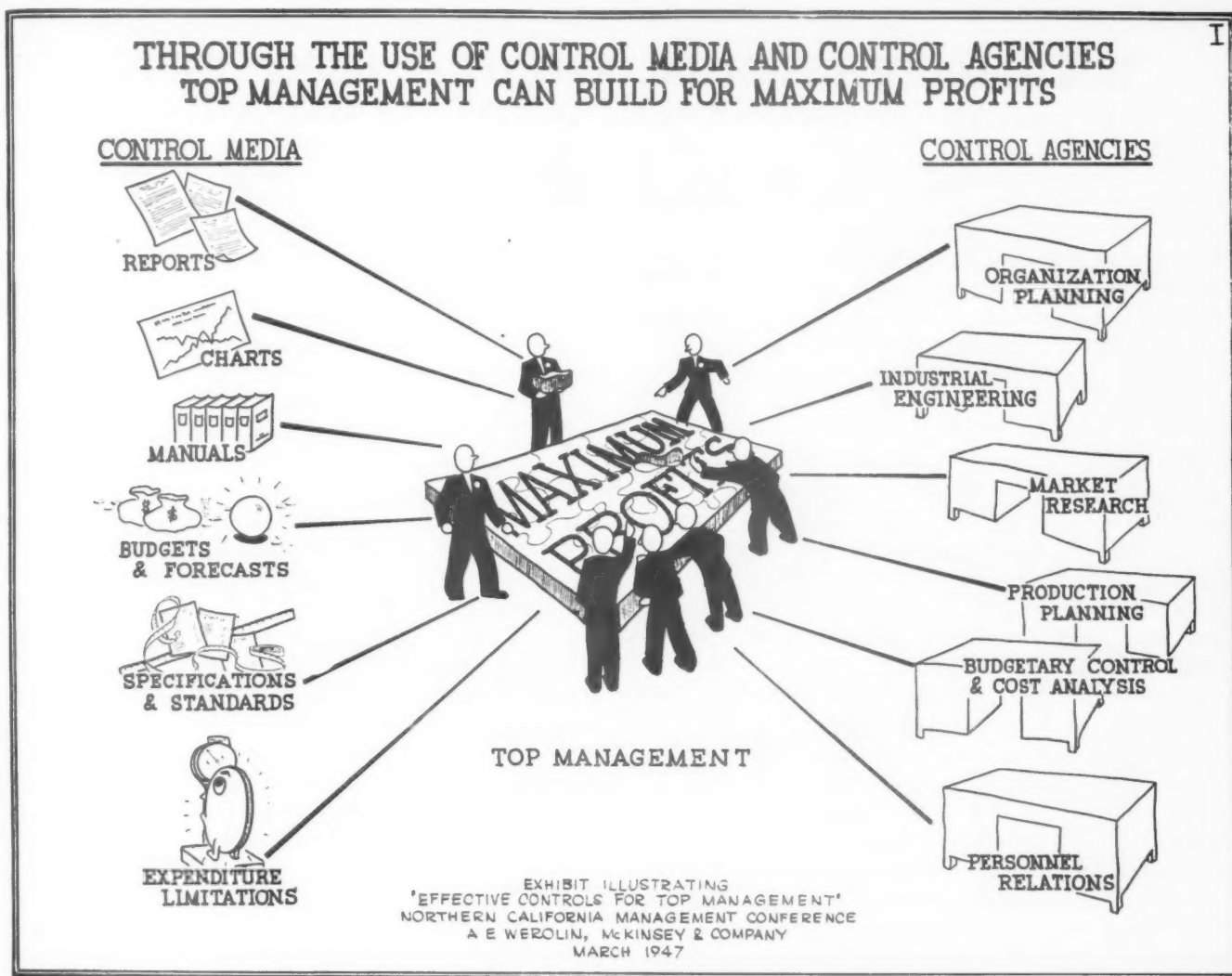
- Reports
- Charts
- Manuals
- Budgets and Forecasts
- Specifications and Standards
- Expenditure Limitations

On the right side are listed some of the essential staff functions or control agencies:

- Organization Planning
- Industrial Engineering
- Market Research
- Production Planning
- Budgetary Control and Cost Analysis
- Personnel Relations

Through the thoughtful use of the right combination of these control media and control agencies, top man-

* From a talk before the Northern California Management Conference Palace Hotel, San Francisco, March 20, 1947.



agement can do an effective job of building for maximum profits.

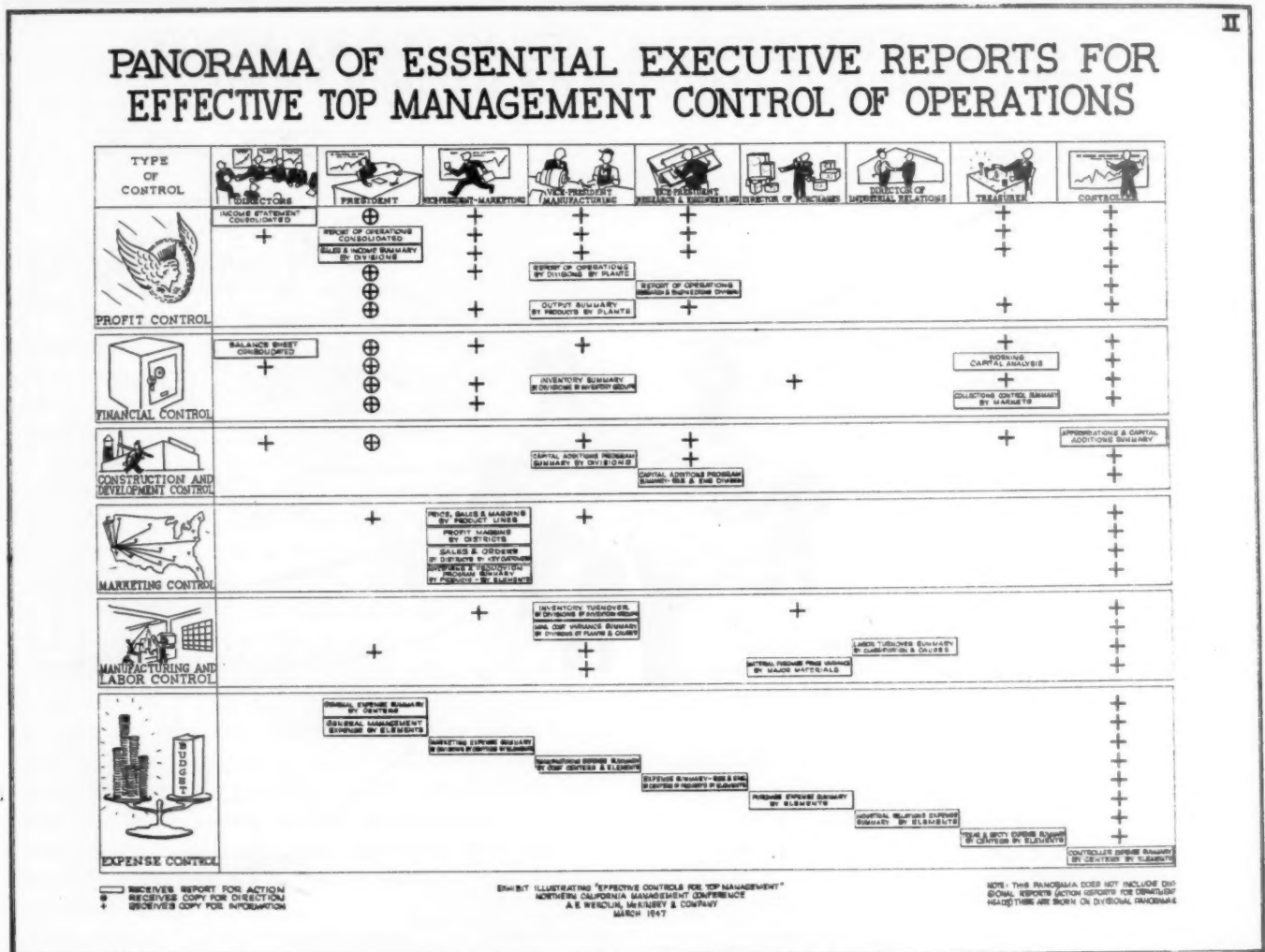
Reports

Perhaps the most popular form of control is the use of accounting or statistical reports. Unfortunately, it is a relatively simple matter to prepare such reports. Therefore, many inexperienced individuals have been given responsibility for their compilation. Such lack of experience often produces inadequate control reports which, rather than guide management, merely confuse the picture and weaken executive efforts.

Frankly, one of the most common and perhaps most serious deficiencies in many companies is the preparation of too many accounting reports. And, in addition, there is usually too promiscuous a distribution of these reports. In many companies, report copies are sent to

every member of the top-management group regardless of responsibility, authority, or interest. Upon receipt of such reports, the conscientious executive spends valuable time reviewing and analyzing the data contained in them. If the executive is at all aggressive, he is apt to initiate action which eventually extends outside his realm of responsibility. This further serves to upset the smooth coordination of the several functions of the business.

Recently, in a medium-sized West Coast company, we found that the Controller's Division prepared 78 detailed monthly control reports, copies of which were distributed to 7 major executives. The interpretation of these reports placed a terrific burden upon each of these executives. You can see that if an executive devoted only an hour to reviewing, studying, and analyzing each report, it would mean that about two



weeks' time out of each month would be devoted only to report reading.

What happened in this company, of course, was that most of the executives soon skipped over certain of these reports and concentrated their attention upon relatively few key items. Nevertheless, the time might have been more profitably used that was involved in preparing the many copies of the reports.

Often executives want to receive reports because of the feeling of importance it gives them—not because they or the company derive any benefit from this distribution. Many of the executives of one large company admitted they asked for reports merely to impress the president with the fact that they were interested in all phases of the business and were keeping in touch with a lot of things.

Actually, the knowledge they received from any of these reports was dangerous and misleading rather

than worth while, but it did inflate their ego. A great many reports were subsequently eliminated. This was several years ago, and we have not heard that the corporation suffered because of it.

In order to determine the essential control reports which top management should receive in the average company, consider these four cardinal rules or principles in the preparation of reports:

1. The type of control report should be wisely selected and the report itself carefully prepared. It should contain only the essential information needed by the executive to permit him to take effective action concerning the functions for which he is responsible. Obviously, the report should be clear and understandable and should be produced at a cost commensurate with the value to be received from it. Often, accountants who prepare control reports overlook the fact

that such reports usually go to non-accounting minded executives.

2. The distribution of control reports should be limited to those executives who use them: either to give direction to subordinates, to take action regarding unsatisfactory conditions, or to supply information to certain executives whose efforts must be coordinated with those of others.

3. Every report should show a comparison of some kind. Without a yardstick, it is difficult to appraise a cost or profit figure standing alone. Such data are significant only when compared with a similar figure of last year or against a standard or budgeted amount.

4. A control report should be prepared promptly. If it isn't produced immediately after the event it is no longer a control medium. It then becomes an historical document. This is one of the most serious limitations in the use of reports for control. An executive cannot be expected to take prompt and effective corrective action if he doesn't know the results early enough to apply the remedy before the event is over.

Exhibit II illustrates the group of top executive reports which were considered essential for the control of operations in a medium-sized manufacturing company composed of several divisions and plants. Thirty key-management control reports are shown on this panorama. In this company there were other charts like this one which showed division and department reports.

Note first that the reports have been divided into six control groups: profit, financial, construction and development, marketing, manufacturing and labor, and expense. These are the major control groups for the great majority of manufacturing companies. Across the top of the panorama you will observe the members of top management—still hard at work. These have been illustrated in this way to emphasize the point that not all executives should receive all reports.

In this chart, the title of the report is shown in a box in the column under the executive primarily responsible for taking action concerning the results described in the report. He receives the original copy of the report. You will note also that in some instances there is a symbol in an executive's column—a cross with a circle around it—which means that that executive receives a copy of the report in order that he might better direct the activities of another executive.

Finally, the simple cross in an executive's column shows that he receives a copy of the report for informa-

tion only. It is not expected that he would take any particular action as a direct result of the data in the report. He receives a copy of the report in each case only to facilitate the coordination of his activities with those of other major executives.

The controller of the company for which this panorama was prepared formerly compiled 78 reports covering the same control groups. Because of promiscuous distribution of these reports, 546 copies were distributed each month throughout the top-management group of executives. This panorama of 30 reports required only 74 copies because the distribution of the reports has been carefully determined.

Charts

Closely akin to the use of reports for management control of operations is the use of charts to illustrate progress, trends and relationships in a business. You are all familiar with the various types of graphs, curves, bar charts, pie charts and pictographs which can be used to simplify and clarify statistical information. Much financial and cost information can be presented in charts to tell a sweeping story in picture form. Trends often are lost in a series of monthly statements but come to life in charts.

There are two limitations, however, to the use of charts to show accounting and statistical data:

1. It takes considerable time to prepare most charts. They are, therefore, not only somewhat more expensive but also more time consuming. This increases the interval of time between event and report.

2. It has been our experience that not everyone is chart conscious. While some executives enjoy following business trends in chart form, there are many individuals who do not understand the scales and other details of charts, and hence are confused or annoyed when they receive control information in chart form.

Under the heading of "Charts," we should mention charts showing relationships. Perhaps the most common type of chart of this kind is the organization chart showing relationships within the company by illustrating lines of responsibility and authority. Many executives overlook the control value of an up-to-date organization chart and are reluctant to see one prepared for their company, division, or department.

This reluctance is usually based on a lack of understanding of how an organization chart helps in clarifying duties and obligations, or on some fear that a published organization chart will "hurt someone's feelings." In most progressive companies, however, it usually isn't difficult to provide the understanding

necessary for an organization chart to serve a useful control function.

Copies of the company's organization chart and a comprehensive explanation of the whole plan of organization should be given to all staff and supervisory employees. This will provide a proper understanding of the company's organization structure and will clarify the relationship of each individual's department or operating unit to the whole. The organization chart, therefore, becomes an essential part of the training of executives and supervisory employees. Responsibility for the various functions of the business is consequently established. This is the foundation for effective control.

Manuals

Probably the most important medium for control is the operating manual. Yet relatively few companies have done a thorough and organized job of preparing control manuals.

The reason control manuals are the most effective way to control operations is that these manuals establish the policies, procedures and methods, and outline individual responsibilities far in advance of a particular contingency. Accordingly, when that event actually takes place, the individual responsible for action knows the company's policy, the correct procedure, or the established method for taking care of the situation which has arisen.

Of the several manuals that a progressive West Coast equipment manufacturer has recently completed, the most important is the policy manual. This manual described the guiding principles established by the company to govern the actions of executive and supervisory personnel. Each member of top management, each division manager and his assistant, and all major department heads have a copy.

Recently, while talking to one of the executives in this company, I asked him what he thought were the three most important advantages which had accrued to the company as a result of using their policy manual over the past year.

He said, first, "We seem to be operating more smoothly, have less conflicts, all members of the organization now have the same idea of the sort of company we want to be." Second, "We now have a means for checking up on the various divisions for compliance and proper understanding of our policies." And finally, "We feel sure now that we are not going to forget how to treat a particular situation because our policy has become obscure through the passage

of time." Those are pretty potent advantages to any company.

Another type of manual which is a particularly useful control medium is an organizational manual. This is a binder containing detailed job descriptions for each executive and supervisory position in the company. Usually these job descriptions define the general responsibility of the executive, describe the general objectives of the job, and list the specific duties, limits of authority and relationships with other units of the organization. They thereby clarify for all to read, the kind of job which the person filling that position is expected to perform.

In companies operating at several locations, that is, in several divisions or plants, or in the medium-sized company where operations are not repetitive, there usually is need for a procedures manual. This is a detailed outline of the procedural steps to be followed by operating and clerical personnel in discharging their specific duties. The procedures manual describes the forms and records that should be used and shows how information, data, and other relative material should be compiled.

The company which has these three manuals—policy, organization, and procedures—can be sure that it is fundamentally organized for effective control of operations.

Budgets and Forecasts

Those companies which have established some form of budgetary control find that the administration and direction of the various operating units of the business is much more effective. A sound plan of budgetary control requires not only a careful analysis of the current operations of each major department of the business, but also requires a high degree of planning for the future. Usually this means that some method of forecasting income and costs must be employed. The various steps which must be taken in the preparation of such budget information can of themselves do much good for the company. When the budget is finally established, it means that every part of the company is committed to a specific accomplishment. This adds definiteness and purpose to the efforts of top management.

As you know, budgetary control provides for pre-planning all operations for the coming period or periods. Each of the various departments or divisions of the business is, therefore, committed to a well-considered performance estimate. Here, then, is a practical means for checking results, uncover-

ing weaknesses, and making corrections before it is too late.

Those progressive companies who have established budgetary control plans find that such a procedure provides an effective means by which top management may delegate authority to divisional and departmental executives without sacrificing over-all control.

The most successful budgetary control plans are those in which the supervisors of the various sections or departments of a company participate in formulating the detailed budgets for their departments. When the detailed budget figures have been prepared, they are subject to approval by some top-management representative. If the person responsible for the activities of a department participates in determining his own objectives, cost, and other criteria of performance, management will be in a much better position later on to hold him responsible for results within the budget.

To coordinate effectively the work of all departments, it is necessary to have a future operating program. Here is a question involving basic company policies. Some companies operate their factories at full capacity and expect the sales department to dispose of the output. There are other companies, however, in which the production department is required to accommodate itself to the primary interests of distribution. And still other companies endeavor to obtain stabilized employment and a level rate of production throughout the year. There are undoubtedly other basic considerations which might influence how production, inventories and capital can best be balanced.

Because these basic considerations will vary widely between companies and industries, it is not possible for all companies to follow the same procedure in forecasting their volume of business. Invariably, however, regardless of industry, the progressive company usually endeavors to determine what its approximate rate of operations for the coming year will be by making detailed sales forecasts in advance of the period of operations. Generally, these long-range expectations are then translated into an operating program by months for a period of one year ahead.

The use of such forecasts as a control medium is very beneficial. Budgets can be more accurately determined when the probable volume of business is known. Capital requirements and inventories of raw materials and finished goods can be more effectively planned and controlled. Plant additions, organization modifications, and personnel requirements can be anticipated. Obviously, the ability of top management

to make accurate decisions regarding these various aspects of the business constitutes one of the most effective means for control in a company.

Specifications and Standards

Our discussion of the important types of control media would not be complete if we did not comment on the use of specifications and performance standards for controlling manufacturing operations.

Some confusion exists concerning the difference between specifications and standards. Generally speaking, a specification is a definite and complete, detailed statement setting forth the nature of the article or activity covered and describing the precise method of making the product or applying judgment to the activity.

A performance standard, on the other hand, is an established measure of the extent, quantity or value which has been chosen to represent normal or average performance. A specification may be likened to the selection of the road or route to be followed when you travel, say, between San Francisco and Sacramento, whereas a standard would be the speed limit established to control your performance as you travel over that road. Thus, specifications become the guideposts, and standards the speed limits on the road to effective control of operations.

The more important types of specifications which the well-managed company should have include:

1. Specifications concerning all the jobs and positions in the company. These describe the education, skill and responsibility requirements for each job.
2. Specifications pertaining to personnel. These describe the kind of individual best suited to perform each function.
3. Specifications describing the engineering and material characteristics of the product, and
4. Quality specifications describing the manner in which the product should operate or how it should look, taste or feel.

Such specifications should be in writing. Many companies have established formal procedures whereby the preparation of job specifications and engineering specifications is a routine part of their control program.

Performance standards are usually limited to sales, production, costs and materials. Sales and production standards include those data which indicate the specific performance rate which it is expected an average employee will maintain. Often these standards are related to compensation in the form of factory or office workers' or salesmen's incentive plans.

Cost standards measure actual dollars-and-cents performance by departments and areas of responsibility. Usually such cost standards tie in with the budgetary control program previously described. Finally, material standards such as might be used by purchasing departments or inspection departments are those which describe the yardsticks by which purchased or manufactured materials are measured.

With regard to both specifications and standards, it is top management's responsibility to see that these two devices are provided and utilized effectively. This means establishing the proper staff functions or delegating sufficient responsibility so that these media will be developed, established, and kept up to date.

Specific Expenditure Limits

Most companies have some form of control over capital expenditures. Usually this control consists of a series of specific approvals. Projects involving more than a designated minimum amount are required to be put in writing in a more or less formal application with pertinent information and substantiating reasons. These requests are then carefully reviewed by members of top-management, and finally approved by an authorized individual.

Authority for this final approval is delegated in varying degrees according to company and according to level of management within any one company. One medium-sized manufacturing company required that proposed capital expenditures over \$500 be submitted to the Executive Committee for approval, expenditures between \$300 and \$500 may be approved by the President, and under \$300 may be approved by a Plant or Division Manager.

Only a few companies take one additional important step with regard to such capital expenditures. This is in the nature of a follow-up step. After the capital expenditure has been approved and the work actually completed, some sort of report should be prepared to describe the results which have been obtained. Of course, this is not necessary on maintenance and repair work, but where new equipment is installed or a new plant constructed, top management should have some sort of control check made to see whether or not the anticipated results and benefits have been obtained. In those instances where this has been done, many situations have been found where the original objectives or expected benefits were completely overlooked as the work progressed. Where this had happened, effective remedial action could then be taken.

Specific expenditure limitations may be applied by

top management for other things than capital expenditures. For example, the company just mentioned places a limitation on Division Managers in so far as engineering and research projects are concerned. Any research project estimated to cost over \$300 must receive the prior approval of the Director of Engineering and Research and the Executive Committee.

Control Agencies

At this point perhaps you are wondering whether top management can be expected to take the time necessary to prepare, interpret and study these various control media. The answer is, of course, that if top management wants to insure the growth of the enterprise, it must devote its available time to the developing and planning phases of the business.

The preparation of the control media just described should be left to designated agencies equipped to do so effectively. The interpretation of the data also should be delegated to staff personnel. Top management can then exercise effective control by reviewing regularly the performance of individuals and departments. It can observe the operating results in control reports and charts and note the reasons for deviation from budgets and standards as supplied by staff specialists. Management can then quickly reach a decision on the course of corrective action to be taken.

Now, it isn't necessary for every company to have a staff department for each control function. That depends upon the size and complexity of the business operations, potential growth, and nature of the current problems. The small company can combine all staff or control work in one individual. As a company grows in size, however, this work is better performed by separate individuals, or by several departments, each staffed with qualified personnel.

Regardless of the size of your business, the important thing to bear in mind is that specific responsibility for each control function should be definitely assigned to some individual in your organization. If this responsibility isn't clear, either the control function will not be handled at all or there will be overlapping of effort. The result of this is confusion and less effective control.

Let us briefly consider the more important functions performed by the staff control agencies listed on the right side of Exhibit I.

Organization Planning

Not many companies are large enough to have fully staffed organization planning departments. Neverthe-

less, the function is performed in all business enterprises. In the smaller companies the chief executive, the president, must handle the necessary organization planning work. In somewhat larger companies where there is a recognition of the need for establishing definite organization lines and responsibilities, the president has delegated this task to a staff executive. In many companies this is a "one-shot" proposition, or at least a type of activity that requires attention only at infrequent intervals. Consequently, outside agencies are often employed.

What are some of the typical control functions handled by an organization planning staff agency?

1. It studies the company's organization problems and determines the best assignment of responsibilities among executives and supervisory personnel.

2. It prepares organization manuals and charts outlining the responsibilities and specific duties of key positions in the company.

3. It prepares policy and procedure manuals.

4. It develops plans for the personnel growth of the organization. The life-blood of a progressive business enterprise is the amount and caliber of junior executive talent available in the organization. In addition to providing understudy positions in the organization for such junior executive talent, Organization Planning often is responsible for formal supervisory and executive training programs.

There are several West Coast companies who have had organization planning departments for some time. Other progressive companies are in the process of establishing them at this very moment. The work of these departments has been particularly effective since the end of the war in streamlining the activities which mushroomed during that period.

One outstanding result which a particularly large company achieved recently was an annual cost reduction of almost \$300,000 from reorganizing the procurement activities of the company. Obviously, not many companies are large enough to effect such savings, but this indicates the tremendous opportunity which exists. Such opportunities cannot be realized except through an effective job of organization planning.

Industrial Engineering

The control agency called Industrial Engineering is perhaps one of the most popular staff functions found in the average company. Even the smallest company usually has an industrial engineer working on production and related problems. Some companies have

emphasized this particular activity more than others and have set up large industrial engineering departments to carry on a wide variety of control work.

Typically, Industrial Engineering in most companies performs these duties:

1. Studies manufacturing methods, layout, working conditions, and materials handling techniques, in order to control and reduce direct and indirect costs.

2. Assembles data for production standards and cost standards. This information, in turn, may be used in the development of incentive plans.

3. Prepares data for specification sheets covering methods, quality, performance and other operating details.

4. Develops manufacturing budgets, including estimates regarding plant and equipment additions and replacements.

5. Interprets production performance reports. This would include the investigation of unsatisfactory performance and the development of necessary corrective measures. Since information concerning production rate and earnings rate can be compiled rather quickly, it is possible for Industrial Engineering to investigate unsatisfactory conditions promptly and apply control measures early enough to be effective.

Of all the staff activities we might consider, Industrial Engineering is probably the easiest to prove that it can support itself. Industrial engineering techniques have been developed so well that their application is almost certain to bring about economies with a minimum of expenditure.

Market Research

Relatively few companies have employed market research as a control agency. Those companies who have done so have received tremendous benefits. The principal duties of such a staff activity are:

1. To study market areas, channels of distribution, pricing structure and policies, adequacy of product line, and warehouse location.

2. To develop sales potentials, sales forecasts, sales budgets, and other media useful in plotting sales progress.

3. To analyze sales performance reports and develop effective marketing programs.

Here is an example of how market research was used as a sales control tool. A national manufacturer of quality housewares recently made a thorough analysis of its marketing program. On the basis of an extensive study of market potentials and industry sales, it was found that the company was not get-

ting its fair share of sales in five out of its twelve major marketing areas. It was already in a buyer's market.

Additional distributors were carefully selected. Increased selling effort was directed to the five lagging territories. As a result, sales have already increased 15 per cent and should increase the same amount in 1947. This will then place the company in an equally competitive position in each of the twelve areas.

Production Planning

The fourth important control agency is Production Planning. This activity is responsible for the coordination of sales forecasts and productive capacity. That function is particularly important where products are manufactured for stock rather than built to order. The production planning department in such companies has these important duties:

1. Responsibility for planning inventory, labor and capital requirements far in advance of actual production.
2. Control over production and inventories by the preparation of production schedules, work orders, and other control procedures.
3. Interpreting inventory data, and preventing inventories from getting out of line with respect both to sales forecasts and actual rate of consumption.
4. Planning the productive capacity requirements of the company so as to take care of anticipated sales, and determining the necessity for additional production lines. This information is of considerable consequence in planning the capital expenditure budget.

An effective production planning department is one of the most important and valuable agencies available to top management.

Budgetary Control and Cost Analysis

The department held responsible for budgetary control and cost analysis has as its major responsibility the assembling and preparing of both operating and cash budgets. This involves the preparation of cost control reports, charts, cost standards and bogeys.

In addition, this department is in an excellent position to analyze and interpret cost data, thereby supplying top management with sound judgment con-

cerning costs and performance trends. Often this agency can suggest the action which should be taken to remedy unsatisfactory conditions.

Personnel Relations

Our comments concerning control agencies would not be complete if we did not mention the control function performed by the Personnel Relations Department. Specifically, it is this department's task to see that adequate job descriptions and specifications are prepared. This in turn becomes the basis for a salary and wage classification plan, which involves job evaluation and merit rating techniques and procedures.

Finally, Personnel Relations has the important responsibility for controlling the rate of personnel turnover. The right people must be selected and placed in positions which will properly utilize their talents. Adequate working conditions and employee services must be provided so as to maintain a high level of morale and employee satisfaction.

A sound personnel relations program, properly administered, can go a long way in controlling personnel costs and in eliminating management problems.

Conclusion

Profitable business operations do not just happen by chance. After plans are laid and employees instructed in the policy or procedure to use, top management's job is not yet finished.

There remains the need for watching what is actually happening, evaluating performance, and changing instructions. In other words, there is the job of controlling the activities of the organization.

We have discussed several formal means for control. Equally important are management's first hand observations of actual conditions and personal contacts with the people on the job. However, if management executives can be relieved of unnecessary administrative detail through the use of control media and agencies, they will have more time for such contacts and observations. These stimulate morale and effectiveness in a organization.

Thus, management's real job can be more effectively carried out. And maximum profits will be assured!

Supervising People—Closing the Gap between What We Think and What We Do

By MILTON HALL

Chief, Staff Development Section, Federal Security Agency

THE employees in an average office do not accomplish much more than half as much as they could, a group of managers agreed when polled recently.

There are several chief reasons for this gap between actual and potential accomplishment. The methods of doing a job may be inefficient and unnecessarily complicated. Imperfect planning and scheduling of work may account for part of the gap. Some people have not learned how to do their jobs as well as they could, or take an unnecessarily long time in learning. The system of communications may be inadequate, resulting in lack of understanding, failure, to follow policies, and duplication of effort.

But perhaps the most important single reason in most organizations is that people generally just don't do as well or as much as it is within them to do. As H. H. Carey has estimated, "It is highly probable that the average employee is not giving more than two-thirds . . . his full measure of cooperation and ability to his employer."¹

Intentional restriction of output, while common, accounts for only a part of this loss. Even when people have the very best of intentions, they do not automatically do their best. Some do less than they could because their supervisors seem satisfied and do not require more. Some higher-level people lose drive in face of seemingly unnecessary delay and obstruction, inability to see that they are accomplishing anything significant, and similar frustrating experiences. Others feel too insecure or have insufficient confidence to let themselves go; they piddle with insignificant matters while the important things go undone.

Still others turn much of their energy into resentment over what they consider arbitrary or biased treatment by their superiors. Some lose time and energy worrying about "where they stand" and wondering whether they have their superior's approval. Others have been allowed to get into a rut and have lost interest and zest. And all of us are victims, in varying degrees, of just plain human inertia.

Since management wants production, it is manage-

ment's job to establish conditions that enable people to release their energies more fully and to change conditions that reduce the will to work.

The Hawthorne studies of the Western Electric Company showed conclusively that the frame of mind of employees has a great effect on their production; changes in the way the employees felt increased output 25 percent. These studies also showed that *the manner in which people are supervised or managed has a greater effect on their output than their working conditions, the length of the working day, or even the rate of pay.*

The obvious answer, of course, is to make sure that supervisors at all levels act in ways that will lead their employees to do more and better work.

There lies the difficulty. To overcome it has been a main purpose of "supervisory training programs." Such programs have been helpful but, we must admit, they have fallen short. In one organization we decided a few years ago to do a little fundamental thinking to see if we could find an effective supplement.

Our thinking led us to two chief conclusions that have guided us in developing an effective means of helping supervisors to lead their subordinates to do more and better work:

(1) *There is a difference—often a big difference—between (a) what we as supervisors accept as good ways of dealing with employees and (b) the way we actually deal with them.* For example, you will seldom find a supervisor who doesn't agree with the wisdom of "giving credit when credit is due." Your will look almost as long before you will find one who doesn't assume that he follows this precept in dealing with his employees. Yet we know that in actual practice subordinates do not get the recognition and praise they need to do their best.

Many training programs are successful in getting supervisors to accept ideas and ideals—in terms of words. But sometimes the man who learns to talk most glibly about principles and methods of supervising people seems the one who is least likely to practice them on the job. He mistakes the word for the deed, perhaps, and is so convinced in terms of principles that it doesn't occur to him to check his practice.

¹ "Consultative Supervision and Management," *Personnel*, 1942.

Training in the principles and methods of employee supervision is not enough. What we need is some means of enabling supervisors to see how they actually perform on the job and to see in what particular ways they fall short of following good principles and methods in actual dealings with their subordinates. Perhaps most of all, we need some means of stirring supervisors to action, of getting them to change their methods and habits when they should.

(2) One of the chief reasons why we are not more successful in supervising people is that *we don't have enough information (a) about the effect of our supervision on our subordinates, and (b) about what is really on our employee's minds.* It is all very well for a supervisor to agree, for example, that one should let subordinates know where they stand, but it would be even more important for him to discover, let us say, that half of *his* employees *don't know* what he thinks of their work. The first is an academic generalization with which he will undoubtedly agree. In fact he will probably assure you, sincerely, that he always makes a point of letting his people know how they are getting along. The second informs him of a condition about which he has to do something.

Most supervisor training programs rely on presenting and discussing "cases" or "problems." Members of the conference group discuss, for example, how they would deal with employee A whose work is slipping or with employee B who is habitually tardy. This method is useful and important, and I do not want to belittle it. But we became convinced that the *most important employee problems are the ones the supervisor does not know about.* Focusing attention on the little problems (or problem employees) that he knows about may cause the supervisor to fiddle while Rome burns. He may become concerned, for example, with the best technique for dealing with Miss Fiddich, who has B.O., while an unreasonably large number of his employees don't have a clear enough understanding of their responsibilities, are not doing their best because they think that rewards will go to favorites anyway, or are quitting because they think their supervisor is too arbitrary. This is the kind of "problem" that the supervisor is unlikely to know about, and it is the kind that prevents efficient operation of a unit.

We need, then, some means of enabling supervisors to get the information they must have to deal with the real employee problems of their unit.

These two major conclusions or observations led us to believe that we could help supervisors do a better job of supervising if we could give them their em-

ployees' frank yet carefully thought-out observations about their bosses' methods of supervising them. After all, who could have a better idea of the effect of supervision on employees than the employees? Supervisors who incorrectly assume that they give their subordinates deserved praise might be jolted into doing so when they find that their employees don't think that they get recognition. The supervisor who discovers that half his employees don't know what he thinks of their work, or that a third of them say they don't have a clear understanding of their duties and responsibilities, sees a job cut out for him.

Therefore, borrowing from "attitude survey" techniques, we prepared a list of questions to be answered by employees *for the benefit of their supervisors.* It should be emphasized that we had no intention of making an "attitude survey" in the usual sense of the term, because our previous experience with such surveys had not been sufficiently profitable. We were not interested in "measuring morale" or "attitudes" as such, or in finding out how the employee group as a whole felt about working conditions, pay, and so on. We wanted an action program to help supervisors supervise more effectively and, as a subordinate part of this program, we needed to provide the supervisors with information on the actual effectiveness of their methods of dealing with their subordinates. This is how we went about it:

How the Program Operates

1. Preparatory meetings

The consultant who carries on this work deals with a small homogeneous group of supervisory personnel, all from the same organizational unit. The group may consist of a section chief and his unit chiefs, or the chief of a small division together with his section and unit chiefs. These supervisors may have, in all, from about 20 to 80 employees.

The ranking supervisor calls a staff meeting of the group, proposes that they all devote a series of conferences to taking stock of their methods of supervising people, and asks the consultant to lead the meeting.

The consultant's first major aim is to get the group to want him to find out for them how their employees feel about various specific aspects of their supervision. He must first get them to want to know. By describing concrete instances, he demonstrates that the way in which people are supervised has a great effect on their productivity. These examples show how employees' work improved when their supervisors followed the best methods for leading a group of employees.

What are these best methods? Stated in one way or another, they are the methods we all preach but don't practice. Here is the way we state them (and we do not claim that the list is complete or final):

1. Consult with employees before making decisions affecting them or their work; enlist their help in solving your operating problems.
2. Give advance notice and explanation of changes that affect your employees.
3. Be sure your employees understand "why."
4. Let each employee know "where he stands."
5. Demonstrate your desire to help each employee succeed in his work.
6. Give each employee the recognition he deserves.
7. Be sure your requirements are reasonable yet high.
8. Make the best use of each employee's abilities.
9. Remove hindrances to prompt completion of work.
10. Avoid the appearance of partiality or personal favoritism.
11. Represent your employees' interests to your superiors.
12. Be understanding and helpful in dealing with employees' problems.
13. Create a friendly and congenial atmosphere.

There they are, the same old precepts that everyone accepts but that are really so very hard to practice.

The consultant assumes that the group knows these precepts and accepts them as the way to operate. The important thing is to find out how fully we, as supervisors, follow them in actual practice. We know we are not perfect; no one is. But specifically where are we strong and where are we weak?

Chiefly by using illustrations that strike home at the personal experiences of the supervisors, the consultant convinces them that there is usually a difference between (1) what any supervisor accepts as good ways of dealing with employees and (2) what he actually does in practice. He also shows how extremely difficult it is for any supervisor to see himself as his employees see him.

How can a supervisor see himself? Who should have a pretty good idea of the effect of employee supervision on employees? The employees themselves, of course. If we could get from them their frank but carefully thoughtout observations, we would have the information we need. Moreover, since the way people feel about their work and their supervision has so big an effect on output, let's by all means find out, if we can, how they really feel. Possibly we may discover some

difficulties we don't know about, before it is too late—unlike the supervisor who found out after his best employees had left him that his people had the false impression that he was stealing the credit due them.

At this point the consultant tells how this information can be obtained. If the supervisors will call their employees together, he will get the employees to answer a list of questions that will show—at least from the employees' point of view—how successfully the supervisors are carrying out the various good supervisory practices. (Typical questions are shown on p. 135.)

He will bring a summary tabulation of the results to a future meeting of the supervisors. It will show them with which areas they as a group need have no concern as well as what their problems are, if any. Subsequent meetings will be devoted to deciding what to do about the problems.

Each of the questions asked of the employees gives them an opportunity to record their observations on some pretty specific supervisory practice. The number of questions necessarily is rather large so that each question can be specific. Employees' answers to general questions are too likely to be influenced by their general personal like or dislike for their superiors, and that is not what we are after.²

Each question implies a specific supervisory practice under one of the thirteen broadly-stated fundamentals or "guides." Thus, after their employees have answered the questions, the supervisors can discover how effectively they have been following the guides in actual practice.

The consultant emphasizes that he is serving merely as a middle-man, to get some information the supervisors probably could not get themselves and to bring that information to them for their use. He makes it clear that he doesn't want the information for himself and that he will give it to no one but them—especially not to the higher bosses. This assurance reduces their fear of being shown up and, along with other methods of reducing resistance, results in the consultant's *being asked* to go ahead with the plan. We must sell the idea rather than impose it; otherwise, later resistance to unfavorable answers to the questions will make the whole business a waste of time.

The remainder of this first meeting and the greater part of a second is devoted to a discussion of the

² Experience seems to have proved that we have succeeded in reducing to a minimum the tendency of employees' answers to be influenced by general attitudes or feelings. The degree to which employees have been discriminating in their answers is demonstrated by the fact, for example, that the two groups that answered the largest number of questions unfavorably actually answered several questions more favorably than any other group.

thirteen supervisory guides and the questions under each. The purposes of this discussion are:

a. To bring about a deeper understanding of the sound though bromidic supervisory principles that we all are so likely to parrot superficially. The group analyzes why it is that people work more effectively when their supervisors deal with them in the ways indicated. This discussion leads to an appreciation of the basic needs of human beings for personal security, for recognition and acceptance of their worth, and for a feeling of importance. The group comes to see that the supervisory practices implied by the questions are calculated to feed these human needs as well as to enable employees to succeed better in their work (which is the one best medicine for improving "morale" and performance). Most of the ideas dealt with are included in readable written material that is distributed later.

b. To help the supervisors become fully familiar with the questions. One reason for doing this is that the questions, besides serving as a vehicle for getting information, also provide a useful check-list of good supervisory practices. For example, the question, "Are you hindered much by not being kept informed of actions or decisions that affect your work," serves to remind the supervisor to ask himself if he has been giving enough attention to keeping his people informed.

c. To "sell" the supervisors on the importance of the questions, so that they will be more likely to be stirred to action to correct any undesirable conditions revealed by the answers. A major point of strategy is to get the supervisors to think of themselves as employees and thus to lead them to appreciate the important effect of a superior's actions on a subordinate.

At the end of the second meeting the supervisors answer the list of questions themselves (a slightly different form is used) for the benefit of *their* supervisors. We deliberately have them answer the questions about their own bosses *before* they receive the answers of their subordinates, because they then are more likely to understand and accept any unfavorable answers they get from *their* subordinates. They gain insight by being placed in the position of thinking of themselves as subordinates, rather than bosses. Later, if they find that a surprisingly large proportion of their people give unfavorable answers to some of the questions, they are not so likely to be shocked and resistant. They will recall that they gave some pretty unfavorable answers themselves when they were in the role of employee.

2. Time interval before meeting with employees

Plenty of time, usually a couple of weeks, is allowed between the supervisors' first meeting and a meeting

at which their employees answer the questions. There are two reasons for this delay. First, if we are to follow our own principles for dealing with people, we must give them advance notice of anything so potentially disturbing. A man ought to have a chance at least to straighten his tie and slick his hair down before his picture is taken. And that suggests the second and more important reason: we want to give the supervisors time to begin to make desirable changes.

The list of questions serves as a checklist of reminders of the things a supervisor should do, and the fact that his subordinates soon will answer the questions gives him an incentive to do some necessary things quickly. The man who, for example, "hasn't had time" to clear up some confusion about the responsibilities of a few of his employees is spurred to clear it up before those employees are asked, "Have you been given a clear understanding of what your duties and responsibilities are?"

Fine, that is just what we want. The "attitude measurement" experts might criticize this practice. Our real aim, however, is not to measure anything, but to get action.

3. Meeting with employees

The ranking supervisor opens the meeting with employees. He explains that the supervisors are examining their methods, and to do this they need to know what their employees think about the way they supervise. So that no one need fear to express himself freely, *they have asked the consultant* to get this information for them. The ranking supervisor urges the employees to answer thoughtfully and frankly because so much depends on the soundness of the answers they give.

We consider it essential that the ranking supervisor make this introduction. First, his doing so offsets the danger that any employee will get the damaging idea that the consultant's purpose is to get people to tell on their bosses. Second, experience has shown that employees' answers will be made more thoughtfully. Third, since the employees, of course, like the idea of being asked for their opinions, this approach is likely to make them think more favorably of their supervisors—a major aim of the whole program. As many employees have observed, "Only darned good bosses would want to find out what we think."

After his introduction, the supervisor leaves the room, so that no one but the employees and the consultant is present. Then the consultant's chief job is to induce the people to answer thoughtfully, fairly, and frankly. To get the employees to answer frankly,

the consultant tries systematically to remove fear (1) that they might be identified and get into trouble by giving critical answers, or (2) that a superior whom they like and admire might somehow be injured if they answer questions unfavorably.

The consultant also stresses the need to think carefully in arriving at answers. He emphasizes this not only to get accurate answers, but because some supervisors may later seize on any evidence of even a slight amount of thoughtlessness or irresponsibility in a very natural and human effort to discredit an unfavorable finding.

After the meeting, the consultant tabulates the percentage of employees who answered "yes," "no," and "?" to each question, and destroys the individual forms, as he promised the employees.

4. *Bringing the information back to the supervisors*

A third meeting is held with the supervisors at which (1) the consultant reports the employees' answers to the questions and (2) the group selects for later attention the questions answered least favorably.

This meeting is crucial. Everything depends on the supervisors' acceptance of the results. And no one likes unfavorable results; no one enjoys being criticized, especially by subordinates. The very natural and human reaction to unfavorable answers to a question is to become defensive, to resist, to explain away. How would you react if, for example, a substantial number of your employees answered "Yes" to the question, "Do you think your supervisor would grant special privileges or advantages to any of his employees because of a personal liking for them or because they 'play up to the boss'?" You would try to explain it away and you would probably succeed, for the human mind has an almost limitless capacity to reject what it finds disagreeable. Yet if the supervisors succeed in explaining away (to themselves, of course) answers like that, they will do nothing to change the employees' impressions. We shall merely have wasted a lot of time, and have given the employees false hopes.

For that reason, much that has gone before was done to make acceptance more likely, and this meeting is engineered carefully to the same end.

For example, the consultant has explained to the ranking supervisor the natural tendency to become defensive, and this person, by virtue of his position, is able to counteract the tendency when it appears in the group. Moreover, the consultant, knowing the common defenses, anticipates them even before he starts giving the results. He beats the group to any objections that they may have. He cautions them, for example, that

they will have to discount the figures somewhat because there is a margin of error and because there are usually some maladjusted employees who think we are wrong in whatever we do—although of course they are not numerous enough to invalidate the results. He points out that because employees say a thing is so does not necessarily mean it really is—but that if employees incorrectly *think*, for example, that they do not get the credit for a good suggestion, it might as well be true since in any case it has had effects on their work.

After properly preparing the group, the consultant reads off, quite slowly, the percentage of employees of the group of supervision who answered "Yes," "No," or "?" to each question, while each supervisor records the figures. During this process, which always gets rapt attention, the consultant continues his efforts to keep the supervisors from becoming defensive and to get them to accept and do something about unfavorable results.

He is on the alert to enable the supervisors to "save face"—a technique in human relations that we Occidentals could well afford to cultivate. For example, when dealing with such questions as those on personal favoritism, he points out that no supervisor would intentionally play favorites, but that it is easy for employees to get the idea that they do. At the right time he may even belittle a question if that is necessary to keep the group with him. Of course he emphasizes the questions that are answered favorably and appropriately compliments the group. (Fortunately, in all groups some questions are answered quite favorably.) The consultant must also be able to demonstrate that he has a practical understanding and appreciation of the difficulties of supervision. And a light touch when the air gets tense, as it sometimes does, is a big help.

The answers with some few groups are so favorable that the supervisors do not get much more than the assurance and confidence that comes with knowing definitely that all is well.

Many groups, however, are at least a little shocked and taken aback by some of the findings. They may even be a little sore. But if the consultant has done his job well, and the ranking supervisor provides leadership, they accept the bad news (not necessarily without grumbling) and set about to figure out what can be done to make the replies better the next time the employees have an opportunity to answer the same questions. After all, when a self-respecting supervisor finds, for example, that some of his people don't know quite what their responsibilities are, he feels that he has to do something. Even if self-respect doesn't stir

him to action, he may be afraid not to do something about the skeleton now that it is out of the closet. Although this second motive is not the most desirable, it is better than none.

In any event, the group, under the leadership of the ranking supervisor, goes back over the answers to the various questions and picks out for further attention those that disturb them most. We keep the number low, not more than 12 or 15, for there is a definite limit to the number of things anyone can worry about at one time. The ranking supervisor then asks the group to come back to the next meeting prepared to decide what can be done to change the employees' answers to the first four or five questions that indicate problems.

5. Continued meetings

The most important step in the program is now reached. The group of supervisors have found out a lot that they did not know about what their employees think of their supervision. They have found that in some way they have not been very effective. The questions is then, what to do about it. When a person knows he has a shortcoming, but does not know what to do about it, he is likely to become demoralized. When he has a program for strengthening himself, however, the experience becomes stimulating and constructive.

The group of supervisors, therefore, continues to meet under the leadership of their chief. When necessary, the consultant serves as discussion leader; more often he remains with the group merely to contribute his experiences to the solution of problems.

The problem may be, for example, that half the employees do not know what their supervisors think of their work. The group considers what can be done to assure that all employees will know where they stand. They analyze their present methods of achieving this end and may ask why the employees answered as they did. The supervisors may decide to interview all employees to let them know where they stand, to discuss their annual efficiency ratings with them, and to make a practice of pointing out strong points as well as weaknesses when they review the employees' work from day to day.

The presence and leadership of the supervisors' administrative chief takes those proposed actions off the level of "nice things to do if we could get around to it." When it is appropriate to do so, the ranking chief puts these things in the form of administrative instructions. The success of the program depends to a large extent on the chief's leadership, and the consultant sometimes must work very closely with him in an

effort to make sure that he provides the right kind of leadership.

The group considers each of the less favorably answered questions, a few at each meeting. For a few groups which have had very favorable answers from employees, one meeting is enough. Other groups have as many as six meetings, or even more, depending on the number of problems to be dealt with and the amount of energy the group is able to devote to their solution.

Throughout the meetings, the consultant's job is to help keep the group on the beam and to contribute practical ideas on methods of supervising and managing people. Ideas of this kind are given also in the popularly written materials that are provided.

By the end of the series of staff meetings, the supervisors have come out with some specific actions to take. They also have a better and deeper understanding of effective ways of dealing with their subordinates and, we hope, a clearer understanding of what makes people tick. Some of them have gotten the "conviction of sin" that is a first step toward improvement, and they have become well acquainted with a useful outline or checklist of supervisory practices through the 13 fundamental guides and the questions under them. They have been spurred to improve their methods of leading subordinates, and are spurred further by the realization that the employees will have another opportunity to answer the same set of questions.

6. Follow up

During the following months it is desirable for the ranking supervisor of the group to follow up to assure that his subordinate supervisors are carrying through their good intentions, and it is part of the consultant's job to remind him of this.

Then, when the time is considered appropriate, the employees are asked again to answer the same list of questions. This may be from four months to a year later, depending on when the supervisors are ready. Of course, the supervisors have advance notice. Each has his copy of the list of questions and the earlier answers—and time to do a little last minute cleaning up.

Results of the Program

Is all this engineering and effort worth the trouble? We have found that it is. Our purpose in having employees answer the questions is to provide supervisors with information they need and to provide a spur to action. But it serves also as a means of "before and after" evaluation.

We do not expect great improvement in all the groups. We would be glad to settle for a .500 batting average. We know that the chiefs of a few groups could not or would not exert the necessary leadership. But there has been improvement in all the groups we have completed so far.

Here is the kind of changes which are on items for which there was real room for improvement. The numbers are percentages of the employees who answered "yes," "no," and "?".

	Before			After		
	Yes	No	?	Yes	No	?
Are you troubled or hindered much because your supervisor fails to explain, sufficiently ahead of time, the changes that affect you?	67	33	0	24	66	10
Do you know what your supervisor thinks of your work?	53	35	12	77	16	7
Have you been given a clear understanding of what your duties and responsibilities are?	69	30	1	88	11	1
Do you usually get recognition or praise for good work?	56	33	11	78	11	11
Do you believe that anyone above your supervisor shows personal favoritism in making decisions that affect the people in your office? . . .	42	44	14	25	50	25
Do you feel that any work procedure you are required to follow is merely someone's "pet idea" that doesn't really help in getting the work done? . . .	42	49	9	14	77	9
Suppose you had a complaint or were dissatisfied and your supervisor could not solve the problem: Do you think he would hold it against you if you talked it over with the people above you?	45	28	27	0	91	9

What about the effect on productivity, which after all is the payoff? Unfortunately it is next to impossible to conduct a controlled experiment to demonstrate conclusively the effect of any one factor on production.

ERRATUM

An incorrect statement appeared in the article entitled MANAGEMENT STRATEGY IN LABOR CONTRACT NEGOTIATIONS, by Russell L. Greenman and Elizebeth B. Greenman, page 116, ADVANCED MANAGEMENT, September 1946.

This statement indicated that the 1946 Ford Contract included a provision relating to union responsibility. The article purported to be an excerpt from the forthcoming book, GETTING ALONG WITH UNIONS. Actually the article was taken from an uncor-

We do know that average output per employee increased fifty percent in the one group in which production was measurable. While no one can prove scientifically that this increase was due to the program and not to some other influence, it is fair to credit the program with at least part of the improvement.

Difficulties and Disadvantages

This account would not be complete without some mention of the disadvantages of the method. Its greatest potential weakness grows out of its strength. In order to bring about change and action, we use dynamite, and dynamite is dangerous stuff. In inexperienced hands, the method could make for worse relations between supervisors and their subordinates, instead of better. We have concluded, however, that this kind of dynamite is very useful even though it is dangerous and has to be handled carefully.

A related disadvantage is that it is hard to find qualified people to conduct the program. The consultant must have rather unusual personal qualities and experience, and no one can learn quickly to conduct the program as he can a "packaged training program."

One technical difficulty should be mentioned. Although each employee answers the questions in terms of his supervisor and the latter's superiors, the answers of the employees of a number of supervisors are thrown together. The result is a tendency of some types of supervisors to assume that the unfavorable answers must refer to someone else. This tendency is minimized by dealing with small homogeneous groups but still persists. The alternative of having the employees identify their supervisor is not practicable because many employees will not answer frankly under that condition.

Despite these disadvantages and difficulties, our experience has demonstrated the usefulness of this method for getting supervisors actually to deal with their people in ways that assure increased cooperation and accomplishment.

rected, original manuscript of that book. When the manuscript was completed in that year, the Ford management and the U.A.W. had agreed on a union responsibility clause that was quoted in the article. This clause was later deleted from the Ford contract. Therefore, although the statement appearing in the manuscript was true at the time it was written, it became untrue by the time the article was published, and hence did not appear in the book when it was published in January, 1947.

BOOK REVIEWS

The Foreman in Manpower Management; By Lillian M. Gilbreth and Alice R. Cook. New York: McGraw-Hill, 1947.

In "The Foreman in Manpower Management" the authors have attempted to "place at the disposal of the foreman the know-how of human relations and to tie up the human factor with the other maintenance problems in his production job." (p. viii) In the preface we are told that we are to "follow the foreman on his job to see what he has to do and what helps and what hinders him." (p. ix)

After setting this course for themselves the authors proceed with their discussion of how the foreman should handle his contacts with his employees and personnel of other departments. Part of the value of the suggestions made is, unfortunately, lost to the reader because the authors get so wrapped up in the personnel side of the foreman's job that all other phases are neglected or ignored. It must be granted that this is an important part of his job, but the reader gets the impression that the foreman has no other duties.

The authors' approach and discussion are idealistic and on the grand scale. The foreman who would follow the suggestions made, and the suggestions are numerous and thorough, might be an excellent foreman and would surely be a very busy one! It is recommended repeatedly that he improve himself, his department, and the personnel department, check up on how every phase of personnel work in both his own and the personnel department.

The chapter on "Arts of Communication" repeatedly and in considerable detail cautions the foreman against exhibiting haste in interviews with workmen. It is suggested that at all times he keep alert to the impression he makes on the worker through spoken word or mannerism. He should keep thinking about "what makes a person tick?" etc. (p. 18) It is recommended that the foreman keep full written records of all interviews with workers. Further than that he should study a recording of his voice in order to improve modulation. He should also learn public speaking so that he could speak before groups in and outside of the plant. "sooner or later a successful foreman will be asked to speak over the radio." (p. 23) "To some foremen, the use of the telephone brings the same frightening reaction as group speaking." (p. 24) A few lessons on telephone usage are recommended.

Chapters follow on the subjects of "Selection and Placement," "Induction," and "Training." These too are done in the very thorough manner exhibited in the first two chapters. All of the procedures that might be of any help are assumed as a matter of course. "The organization chart showing promotional opportunities is a must if the foreman is to see each job in relation to every other job in the department as well as to jobs outside the department." (p. 30) Of course, he should have an up-to-date "job analyses and wage evaluation of each job," also physical-standards requirements.

The foreman's relations with the personnel department are elaborated fully and the need for cooperation between foreman and personnel department is emphasized. He should know "exactly what the employment interviewers are saying to applicants for jobs in his department. How are the duties of the job being outlined? What is being said about hours,

wages, and chances of promotion?" etc. (p. 33) He should also know exactly what is done by way of induction of the worker because "He has learned from bitter experience that the attitude of the worker, the start he makes may depend on what happens before he even reaches the department." (p. 38) In numerous other places the foreman is urged to check upon how the personnel department functions and give it the benefit of his suggestions.

The authors believe that new workers should receive a great deal of attention. There should be both a tour of the plant and of the department. Also "A going over of his job description and the departmental organization chart will show the new worker the importance of his future contribution." At no time should the foreman let anything interfere with the "appearance of leisure and serenity" during interviews.

In training workers the foreman should also follow the same thorough methods. "In meeting the veteran-training program problems, the foreman may find it helpful to visit a veteran's service or community center." (p. 61) Again in promotion and transfer we find that nothing is simple and nothing is ever dropped. After giving careful consideration to the "facts," "data" and "opinions," (all to be written out and studied carefully), a recommendation to promote a man can be made. If a promotion is refused the foreman should analyze the reason for the denial of the request. Furthermore, "If both the supervisor and the personnel department approve of the foreman's recommendation, the foreman may profitably analyze why they approve." (p. 75) Also if a promotion is made even to another department the foreman should follow the workers progress. No such golden opportunity for foreman self-improvement should be overlooked. "It will be interesting for the foreman month by month to review his promotions objectively, noting the resources he used, and the results. Close cooperation with the foremen in departments to which his employees have been promoted will enable him to keep this record alive and complete. Talking frankly with promoted employees at intervals of, say, a week, a month, or six weeks will give him invaluable first-hand information as the results of his promotion plans." (p. 79)

The foregoing is perhaps sufficient to illustrate the approach to some aspects of the personnel duties of the foreman. The balance of the book is no different in this respect. To this reviewer the continual over-emphasis on the thoroughness with which the foreman is to perform every phase of personnel work is very unrealistic. There is much good material in the book, but there are also many instances of impractical suggestions, particularly a lack of appreciation of a foreman's production duties. If a foreman in reading the book will discount the over-emphasis on minor details, he can glean some helpful suggestions for smoother personnel relations and more cordial personal contacts.

FRANKLIN G. MOORE

Lincoln's Incentive System; By James F. Lincoln. New York: McGraw-Hill, 1946.

This book presents Mr. Lincoln's views on his brand of industrial relations philosophy for management. "Incentive

systems for granting greater rewards for greater production have been used for many years with varying degrees of success. Incentive management, herein described, is something more. It is a philosophy for which no formula exists, but for which the following principles can be stated:"

1. Each worker's desire to achieve maximum production can be developed.
2. Each worker's limitless latent abilities can be enormously developed."

For the realization of these principles, workers must have limitless faith in management. To earn this faith, management must increase the worker's pride in himself and in his work. Management must supply him with incentives and must supply him with crises. Management must give him an outlet for expression through an advisory board. Mr. Lincoln's beliefs on these questions include: "Profits should go to employees, customers, management, and stockholders in that order."

He further believes collective bargaining is civil war, that there are not two sides in a question in a worker-management relationship. His philosophy is one of cooperation, a realistic facing of the economic facts of life by the whole organization, by the whole team.

This book recites the advantages and extraordinary results achieved through this practical and common sense approach to modern industrial relations problems.

The progress of the Lincoln Electric Company is a challenge to all who claim motivation by principles of scientific management. Wages here have increased in the last 20 years from less than \$2,000 a year to \$5,800 a year per worker. Production methods have improved so that the hours represented in building a typical welding machine have decreased from 116 hours to 16 hours in 20 years. The cost of such a machine has decreased from \$800 to \$200 in the same 20 years.

To summarize, this is an informative book for management people, but unfortunately, one which loses some of its appeal through unrelated and bitter, emotional criticism of wartime government practices.

WILLIAM T. SHOEMAKER

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America's Needs and Resources. by Frederic Dewhurst and Associates. Twentieth Century Fund, New York, 1947. 812 pages.

It is impossible within the space allotted to this review to do more than give a hint of the rich contents of this comprehensive inventory of our economic resources and productive capacity. The estimated consumer demand is matched by an estimate of the productive plant and capital goods which will be necessary to satisfy it.

J. Frederick Dewhurst, Economist of the Twentieth Century Fund and Research Director and Editor of this truly monumental work is the author of eleven out of a total of 26 chapters. The other chapters are written by the two Assistant Research Directors, George B. Galloway and A. Benjamin Handler, and 24 other associates, mostly economists who have specialized in their respective fields.

As Evans Clark puts it in the Forward, "Dr. Dewhurst and his associates . . . have taken the measure of our entire economy." With that as a basis they have worked out estimates of what each field of our economy will measure up to in 1950 and 1960. 1950 is almost here, but it should be borne in mind that the work was started in 1943. A measure of Dr. Dewhurst's power of prognostication is furnished by his "basic assumption" made in 1943 which was to guide the work of his associates that "the war will end in 1945 with Japan's defeat coming after Germany's and with the peak of our industrial war effort being attained at some time in the 1944-45 period." This may well go down in the history of forecasting for hitting the bull's eye at a distance of two years.

Assuming a sustained high level of activity, the survey estimates a labor force in 1950 of 60 million as against 54.4 million in 1940. Allowing for normal unemployment of about 5% it leaves 57 million persons at work in 1950 working an average of 40.8 hours a week, and 60.2 million in 1960 working 37.7 hours a week. If labor productivity continues to increase at the rate of 1.7% per year, as it has on the average in the past 90 years, the gross national product in 1950 should amount to \$134 billion as against \$97.1 in 1940. Expressed in 1944 dollars it will be equivalent to \$177 billion in 1950 and \$202 billion in 1960.

Contrary to prevailing impression the survey does not believe that the \$2 billion war-time addition to our capital plant has resulted in extraordinary addition to our peace-time manufacturing facilities, since they went largely into plants devoted to war needs or such peace-time needs as shipyards airplanes which can be used to a relatively small extent in peace-time. "Most of the non-war manufacturing industries and especially the non-manufacturing fields such as commercial structures, was left at the end of the war with vast needs to fill."

On the other hand, technological developments such as synthetic rubber, plastics, plywood, synthetic fibers, substitution of power metallurgy, centrifugal casting and other fabrication processes for machining work, the use of electronics devices for testing metals and for motor and productive control—all of these, as they are being applied in increasing measure to peace-time processes, will require new equipment and will provide opportunities for capital expansion and increased employment.

The same is true of war time developments in transportation and communication, television, jet propulsion, larger and faster planes, extensive terminal landing fields, oxidation of coal and petroleum, biochemical processes and last—new applications of atomic energy. All of which, added to the normal replacements and peace-time expansions is expected to result in outlays for capital goods amounting to \$28 billion (in 1944 dollars) and of a gross national product of \$177 billion in 1950, and \$33 billion out of a gross product of \$202 billion in 1960.

The findings of the survey are well summed up in the following conclusions of the Twentieth Century Fund: 1) our total national income (or net output of all goods and services) in 1944 was \$161 billion as against \$6 billion in 1850 (in 1944 dollars) or 27 times larger, with a labor force only $8\frac{1}{2}$ times greater working 47 hours a week instead of 70. 2) This achievement has resulted in a per capita increase of annual income by the American people from \$270 in 1850 to \$1,170 in 1944.

There are two conspicuous fields of economic activity to which no chapters are devoted in the survey—one is insurance, the other banking and finance. This omission is all the more strange when not only education, but such activities as religion and recreation are discussed in separate chapters.

No person who wants to get a measure of this nation's activities, achievements and prospects can afford to be without this book with its dynamic statistical review covering a retrospect of nearly a century, a comprehensive review of the present and a careful conservative estimate of the coming decade of 1950.

It is the strongest antidote to the technocratic and communist-inspired prophets of the impending collapse of our system of free enterprise.

N. I. STONE

Consulting Economist

Taxation for Prosperity. By Randolph E. Paul. The Bobbs-Merrill Co., Indianapolis, 1947. Pages 448.

The author, a lawyer with a long tax practice to his credit was the storm-center in tax legislation during the war years when he served as General Counsel of the Treasury Department and tax adviser to the Secretary of the Treasury.

The very title "Taxation for Prosperity" stamps him as belonging to the school that believes that taxes have other and more important functions than mere raising of revenue. He believes that a well planned tax system can be made to encourage consumption by the masses thereby broadening the market for industry and agriculture; also that individual income and corporate income taxes can be so devised as to encourage venture capital and discourage accumulation of idle funds in order to stimulate business activity and provide full employment.

In a historical review of the development of Federal taxation in the last half century the author gives a vivid account of the struggle of the Treasury with Congressional Committees during World War II in its effort to raise taxes so that they would yield at least half of the cost of the war, with the twofold object of holding down the size of the national debt and keeping down inflation by syphoning off the excess spending power of the people.

He does not believe in a rigid tax system but one that is adjusted to the swings of the business cycle. The accumulation of idle savings is a reflection of the failure of capital to function which leads to unemployment. When that occurs Government must step in to prevent a recession from developing into a depression.

This, he says, can be done first by reducing taxes especially in the low income brackets in order to release purchasing power. "Appropriate rates for the great middle class . . . must not be so low that revenues are too greatly affected, nor so high that enterprise is unduly curtailed." "At the upper level" he remarks "even 100% taxation would make no more than a dent in a thirty billion dollar budget. Total revenues would be little affected by rate reductions in these brackets . . . (which) should be kept at a level which . . . fosters economic activity on the part of the producing members."

However, he cautions against the notion that rate reduction

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is a panacea for all our economic ills. "Tax reductions are desirable when the economy is depressed and tax increases are desirable when the economy is booming."

On the subject of corporate income taxes and the evil of double taxation—first of the net income of the corporation and again as an individual income tax on the recipients of dividends from the already taxed corporate income, he is very reluctant to grant any relief: first, because stock prices are based on net income after taxes; therefore the elimination or substantial reduction of the corporate income tax would "provide a windfall for present owners of stocks," a dubious line of reasoning which could be advanced against the elimination of almost any existing evil. Second, because it would favor avoidance of individual income taxes through accumulation in the corporate treasuries of undistributed profits.

However, he favors relief by making a substantial differentiation in favor of that part of corporate profits which is distributed as dividends. For the undistributed profits he favors some tax reduction on that part which is invested in new capital additions, so as to encourage new investments, which give employment to labor.

These two measures would go a long way to eliminate double taxation of income from corporate holdings yet would not prevent the "windfall" to which he objects.

The book presents a full dress discussion of the main controversial issues of tax policy from what has generally come to be designated as the progressive angle.

N. I. STONE

Consulting Economist

Human Factors in Management. Edited by Schuyler Dean Hoslett, Harper Brothers, New York, 1947, pages 322. \$3.50.

This is a collection of well-selected articles by thoughtful writers. The usual difficulties of the multi-author book are overcome to a considerable extent by excellent editing. An introduction to each section is supplied in which the several contributions are related for the purposes of this volume.

Many well-known writers in the personnel field are repre-

sented. Their several contributions and points of view are already familiar. Anyone with background will almost assuredly have perused the original works by most of these authors. In addition, there are some writers from the related fields of Psychology, Anthropology, Education and Sociology whose contributions to management thought may not be as well known to the operating executive. Yet the results of their researches and studies have significance in understanding the human factors with which managers have to deal.

There is nothing strictly new in this book. Most of the chapters appeared originally as articles in the journals of various learned societies or as parts of books. One or two are condensations of original works. But their collection in this volume is a real service because it supplies a ready summary of the main points for easy reference.

The editor has performed a real service in presenting for the consideration of management, the knowledge and insights about human relations supplied by these such separate areas of inquiry as orthopsychiatry, psychotherapy and sociometry. The thoughtful manager will be struck by the increasing difficulty, and the increasing need, of using the knowledge acquired as a result of the researches in these various fields.

The section on leadership is covered by such accepted and thoughtful contributors as Ordway Tead, Chester I. Barnard, Douglas McGregor and F. J. Roethlisberger. Training is dealt with by Joseph M. Goldsen, Lillian Low, John R. P. French, Jr., and H. Meltzer. The involved subject of human relations receives ample treatment from Robert N. McMurry, George C. Homans, Clinton S. Golden and Harold J. Rutenberg, while The Office of Community War Services, Margaret E. Barron, W. J. Dickson and Schuyler Hoslett cover the subject of counseling. A final section, entitled "Critiques for Students" deals with the sociological, anthropological and psychological implications by such authorities as Gordon W. Allport, Eliot D. Chapple, Conrad M. Arensberg and Arthur Kornhauser.

Unless an administrator has already on his shelf the source books from which these contributors sprung, this book is a must for acquiring a rounded appreciation of many of the diverse human factors involved in the problems of management.

EVELYN BUCKLEY